JUNE 1951

FIREMEN

FIFTY-SIXTH YEAR · NATIONAL FIRE PROTECTION ASSOCIATION

VOLUME 19, NUMBER 6, COPYRIGHT 1951 NATIONAL FIRE PROTECTION ASSOCIATION PRINTED IN U. S. A.

H. M. Smith, Inspector of Fire Services, The Home Office, London, England, addresses the 55th Annual Meeting of the National Fire Protection Association at Detroit. (Pictures on pages 6 and 7.)

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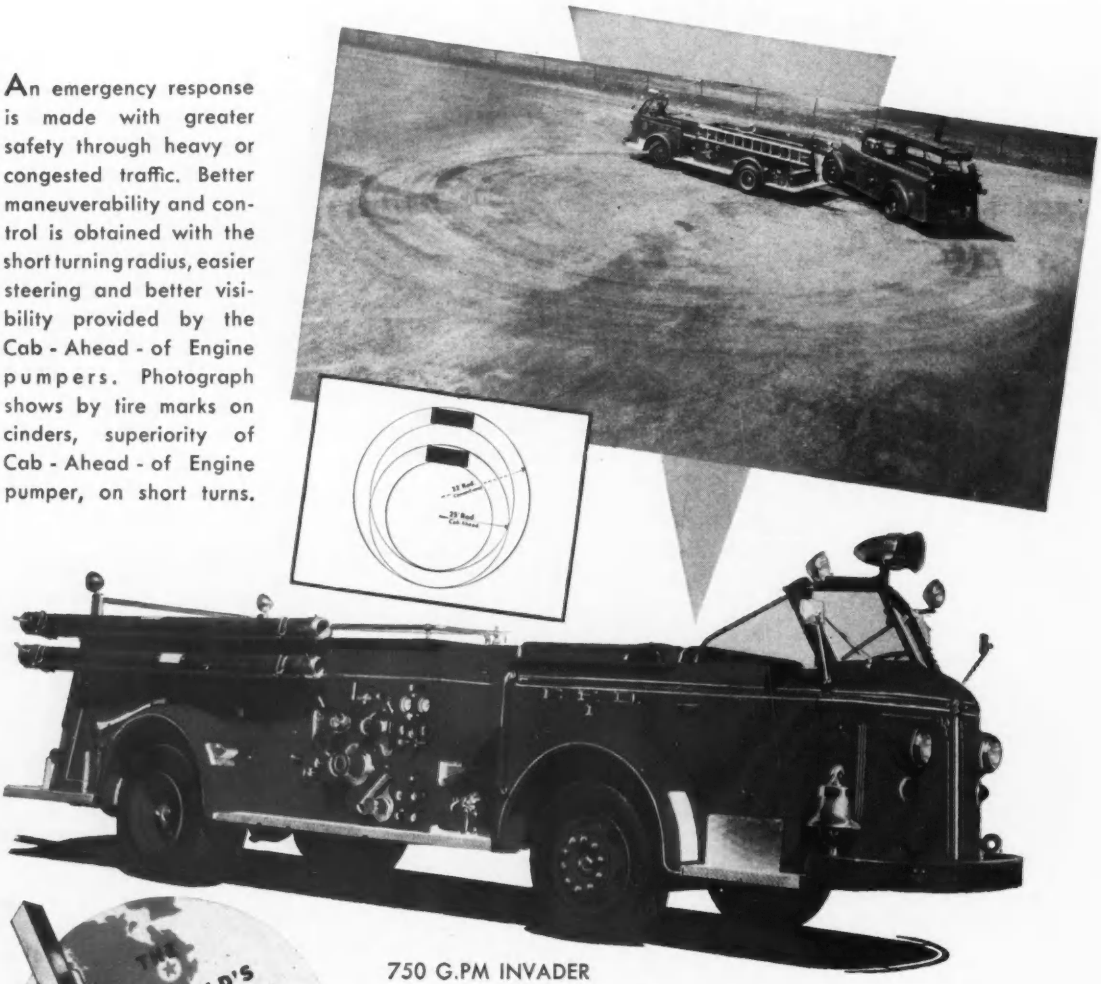

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Firemen

Volume 18 — Number 6

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A VOLUNTARY NON-PROFIT ORGANIZATION
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The Cover Photo

In Great Britain the Government, through its Home Office, contributes to the support of the public fire brigades maintained by the counties and county-boroughs. Chief Inspector of Fire Services is H. M. Smith, shown on the cover addressing the NFPA Annual Meeting.

License Plates for Fire Trucks

A news dispatch from Richmond states that Attorney General J. Lindsay Almond, Jr., of Virginia, has ruled that volunteer fire departments must buy license plates for fire trucks. This is said to be due to failure of the state legislature to exempt fire trucks.

Most states either furnish free municipal or fire department plates for all fire department vehicles or else require no plates on fire trucks. After all, volunteer firemen serve without compensation and in many instances provide the financial support for their companies which perform a public service. It would be strange indeed if a fire truck was not permitted to use the highways of the commonwealth to come to the aid of citizens whose lives and property might be in jeopardy because the volunteer firemen fail to pay "tribute" to the state. Even the U. S. Bureau of Internal Revenue, which is not noted for generosity or charity, has ruled that contributions to volunteer fire departments are tax exempt because they are made in payment for a governmental service.

Cops as Firemen

Fire officials are becoming increasingly concerned over the suggestion raised from time to time by some municipal officials that the fire service be made a part of the police department responsibility, with cops doubling in brass as fire fighters. Some of the many reasons why any such arrangement would result in unsatisfactory fire protection have been previously detailed in FIREMEN for May 1949, page 5.

In discussing this problem recently, NFPA Chief Engineer Horatio Bond summed up the position of the fire service as follows:

"Fire department and police department work are fundamentally very different. You cannot put off police problems since they involve people as a rule but you can put off fire problems since they involve things. A person who has to give attention to both fire and police matters finds the police matters the most pressing and attends to them, leaving the fire problems for attention at a later date. This is why in combining fire and police services you are kidding yourself about the attention fire problems will get. The fact that the fire problems have been neglected does not show up until the big fire comes along.

"Even with the barest minimum of fire personnel for which funds can be budgeted, we would still recommend that the administration of the fire department be separate from the police department. In small cities the fire fighting service is intermittent. It is possible, however, to organize fire companies made up of individuals who serve as firemen on a part-time basis. Such firemen are selected from among people who would be on call 24 hours a day. You would recruit enough firemen for such part-time duty and arrange a schedule under which a sufficient number would always be on call to assure enough for response of the fire companies that may be needed by the community.

"Such persons would be organized under regulations suitable for a fire department that has either all part-time or partly full-time and part-time personnel. Its part-time personnel would be drawn from residents of the community, maintenance personnel of any industries in the community, and employees of the city government. If you want to use any or all of the policemen available for fire fighting duty, you could do so under this arrangement. They would, however, become part-time firemen in the same manner that any other city employee would serve as a part-time fireman."

Certainly, the average fireman, paid or volunteer, has the greatest respect and friendship for the individual "representative of the law" and would welcome him into his fire company if he could qualify and if his duties did not conflict. He is aware, however, that the fire service would inevitably be forced into a back seat if it ever became subordinate to the police service. This is clearly demonstrated by the Japanese fire service where this situation exists as reported in FIREMEN for May 1951.

Highlights of the 55th NFPA

Members of the Detroit Fire Department, headed by Chief Ninnian C. Higby, maintained a vigil of hospitality during the week of May 7-11 for one of the finest Annual Meetings of the NFPA. A local committee, under the direction of Detroit's Fire Marshal Edward W. Hall, had prepared some in-

Part of the crowd that gathered in the main ballroom of the Hotel Statler to hear the Civil Defense Forum of the Annual Meeting. This forum featured outstanding speakers from the United States, Canada, and Great Britain.

(*At left*) Jack A. Hayes, Director of Civil Defense in Oregon presents his state's plan for coordination of activities during an emergency. (*At right*) Lester J. Maitland, Director of Civil Defense in Michigan is shown discussing civil defense problems in his state.

Two speakers who presented committee reports during the session on Municipal and Rural Fire Problems were: (*left*) Leonard C. Lund, Member, NFPA Board of Directors, Chairman of the Committee on Farm Fire Protection, and member of NFPA Committees on Civil Defense and Membership, and (*right*) C. A. Thomson, Dominion Fire Commissioner, Canada, Chairman, NFPA Committee on Forest Fire Protection.

(*Below*) NFPA Vice-President Allen L. Cobb presides at the session on Industrial Fire Problems. Seated are (*left*) Chester I. Babcock, Manager, NFPA Fire Record Department, and (right) NFPA Chief Engineer Horatio Bond.

(*Right*) Michigan State Fire Marshal Arnold C. Renner addresses the Fire Marshal Section on "Analysis of Fire Experience."

(*Left*) Richard E. Vernor, Chairman, NFPA Board of Directors, presents Roy Hudenberg, of the American Hospital Association and Secretary, NFPA Committee on Hospital operating Rooms with a Certificate of Appreciation.

(*Right*) Alvah Small, retiring Chairman, addresses the NFPA Electrical Section. Seated is Charles L. Smith, NFPA Electrical Field Engineer and Secretary of the Electrical Section.

(*Left*) Harold E. Seims, Fireman First Grade, H & L Company 153, New York City Fire Department, receives a check for $500 from NFPA General Manager Percy Bugbee. Seims won first prize in the Basement Ventilation Contest of 1950, sponsored by Durham & Bates, Insurance Agents.

(*Right*) John H. Alderson, Chief Engineer, Los Angeles Fire Department; President, International Association of Fire Chiefs; Member, NFPA Board of Directors, delivers an address on "Current Problems of the Fire Service."

Annual Meeting in Detroit

teresting tours and other social entertainment for those who attended the meeting. The numerous sessions of the meeting were assured of enthusiastic audiences since a total of 1065 persons registered. An additional group of 128 from industrial organizations attended special sessions.

An interesting Public Education and Publicity Session included the above speakers. (*Standing*) T. Alfred Fleming, Chairman, NFPA Committee on Fire Prevention and Clean-Up Campaign. (*Seated*, left to right) Board Chairman Richard E. Vernor, Alex Pilch, Research and Information Department, Dearborn, Michigan, and Ray N. McFarlin, Supervisor of Safety, Cleveland (Ohio) Public Schools.

(*Right*) Harry E. Newell, Assistant Chief Engineer, NBFU, receives an honorary life membership certificate in the NFPA from Percy bugbee as Mrs. Newell smiles approvingly.

A symposium on "Highway Transportation of Flammable Liquids" featured (*left to right*) Stanley Earle, NFPA Flammable Liquids Engineer; Joe R. Yockers, California State Fire Marshal; A. J. Mullaney, Chicago Deputy Fire Commissioner; W. O. Wilson, Standard Oil Company, and F. R. Fetherston, Liquefied Petroleum Gas Association.

(*Left*) Participating in a panel discussion on "Improving Cooperation between Public Fire Departments and Private Fire Brigades" was Chief Earl Toombs of the Anderson, Indiana, Fire Department.

Speakers at the Civil Defense Forum included Major General F. F Worthington, Canadian Civil Defense Coordinator, Ottawa, and (*right*) Kyle P. Laughlin, Director, Fire Service Division, Federal Civil Defense Administration, Washington, D. C.

(*Right*) A welcoming address to the Fire Marshals' Section was delivered by Paxton Mendelssohn of the Detroit Board of Fire Commissioners.

(*Left*) A. H. S. Stead, of Montreal, President, NFPA, delivered the opening address at the First General Session of the Annual Meeting.

(*Right*) An interesting demonstration on "Visual Instruction Methods of Fire Brigade Training" was conducted by Inspector G. E. Montgomery of the Detroit Fire Prevention Bureau, shown at right of lower picture.

1951 NFPA Standards for Motor Fire Apparatus

New Specifications on:

Pumpers — Aerial Ladders — Water Tank Fire Apparatus — Pumper-Ladder Combinations

THE 55th Annual Meeting of the National Fire Protection Association in Detroit last month approved the 1951 Standards on Motor Fire Apparatus recommended by the NFPA Committee on Fire Department Equipment. These specifications, published as NFPA Standard No. 19, are issued in a form that permits their use as part of a fire apparatus purchase contract or as proposals for obtaining competitive bids. (Price $1 per copy.) The Standard is also available in pocket size at 50 cents per copy.

The 1951 Motor Fire Apparatus standards include specifications covering pumpers, aerial ladders, pumper-ladder combinations, and a completely new section on water tank trucks superseding specifications for water tank apparatus formerly published only in the Standard "Volunteer Fire Departments," NFPA pamphlet No. 192. Some of the many changes from the 1950 specifications are outlined below.

The changes in the specifications have been made in an effort to take advantage of suggestions and experience obtained from fire chiefs and other fire officials throughout the United States and Canada. For example, the section of the specifications entitled "Information for Contractors" has been amplified by three new requirements. The first of these requires the manufacturer to send a qualified delivery engineer with new equipment as his representative who shall instruct fire department personnel. This has been the practice of many leading fire apparatus manufacturers for years, but fire chiefs, particularly in the smaller communities, have complained that some concerns assembling apparatus merely deliver the truck, obtain a receipt, and fail to give adequate instruction in the care and operation of the equipment. Another new requirement is that the manufacturer must supply at least two copies of a complete maintenance and operation manual covering the completed apparatus as delivered. Another provision covers the method of delivery of the apparatus to guard against delivery over the road for excessive distances without approval of the purchaser. It places responsibility for the equipment with the manufacturer until formal acceptance.

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FRED SHEPPERD, Editorial Director, FIRE ENGINEERING Magazine
GEORGE L. SWAN, Assistant Chief Engineer, National Board of Fire Underwriters
T. P. TREADWELL, Chief, Fire Department, Fort Collins, Colo.
HUBERT WALKER, Manager, MFA Sales Engineering, American La-France Foamite Corporation

Provisions Applying to All Apparatus

THE provisions applying to "All Types of Apparatus" have been amended considerably to cover more adequately such features as carrying capacity and proper weight distribution between front and rear axles. This has been proven necessary because of the practice of some assemblers who have dangerously overloaded small commercial chassis without due regard to the safe weight distribution necessary for load stability and safe and easy steering. Requirements for fire truck tires also have been made more definite. Minimum tire sizes have been specified. For some time manufacturers of fire apparatus who have been most careful regarding their design engineering have been at some disadvantage when forced to meet competition of other builders who have not hesitated to furnish equipment with tires grossly undersized for the loads carried. As should be well known, such undersized tires actually can endanger the lives of the fire fighters responding with heavily overloaded apparatus, particularly over rural roads.

A new requirement has been added to cover the protection of equipment against freezing. Requirements have been made more specific regarding booster pumps and other pumps of less than 500 GPM capacity. A semi-cab has been made standard equipment for fire apparatus unless a full cab or other body type is specified. A minimum length has been specified for fire hose compartments to avoid the danger of spilling hose en route from shallow, poorly designed compartments. Additional paragraphs have been added relative to mechanical foam and wetting agents.

A new requirement regarding pumps was adopted calling for a "spurt test" to indicate ability of the apparatus to deliver 10 per cent

in excess of rated capacity. This test was added to the previous pumper performance test to safeguard against apparatus which could barely meet pumping requirements at time of acceptance but which a year or two later might prove deficient due to inadequate motor power or to inadequate pump capacity. It should also help guard against acceptance of pumpers having motors which are unable to give the desired pump performance at a motor speed proper for the particular motor employed.

Water Tank Fire Apparatus

WATER tank fire apparatus (not to be confused with mere tank trucks for carrying supplemental water but lacking fire fighting equipment) has been coming into ever increasing use in the fire services of cities and smaller communities. Readers may recall from the May issue of FIREMEN that the pumpers of Los Angeles County, California, carry 500 to 600 gallon water tanks. Accordingly, special provisions are presented for water tank fire apparatus having tank capacities of 400 gallons or larger. Sizes recommended are 400, 500, 600, and 750 gallons. It is considered important to utilize standard tank sizes because this results in economy in manufacture. To meet the apparatus performance standards, motor truck chassis and other design features must be engineered with regard to the specific water load. Standard fire hose compartments for water tank fire apparatus are specified in terms of an 800-ft. hose body as compared with a 1200-ft. body for pumpers having a conventional 150-gallon booster tank. It is left to the purchaser to specify the capacity of pump desired for tankers in conformity with the other provisions of the specifications relating to pumps.

Tankers are required to have two reels for booster hose, and 1-in. booster hose has been made standard for all fire apparatus because the friction loss at a given flow is only one-quarter that of ¾-in. hose. This results in much better performance, particularly with fog nozzles. It is required that all booster hose reels have a capacity of at least 200 ft. of 1-in. hose as 150-ft. reels were considered unsatisfactory. Where fire departments require booster lines of more than 200-ft. length or desire smaller booster hose, they must so indicate.

Aerial Ladders

SPECIFICATIONS for aerial ladder trucks have had their most extensive revision in more than ten years with new sections added covering length of aerial ladders, type of truck chassis and chassis construction, brakes, raising mechanism, jacks, and aerial ladder equipment. Requirements for booster pumps on aerial ladders have been made more specific by providing a pressure performance rating as well as a volume rating. The requirement covering the ability of the aerial ladder to lift from a horizontal position has been strengthened. Perhaps most important are the new requirements on both ground jacks and axle jacks or locks to secure the ladder when the aerial is in operation. These requirements have been strengthened to overcome deficiences reported by fire chiefs as a result of field experience. Life nets while conventionally carried on aerial ladders, for the first time, were made part of the standard equipment to be furnished by the manufacturer.

"General Information"

The informative appendix to the specifications covering both the history of the Motor Fire Apparatus Specifications and information for municipal officials using the specifications has been subjected to extensive editorial revision. The 600 GPM pumper has been eliminated as a standard size of pumping engine so that the 5 standard sizes are each separated by 250 GPM performance (the flow from one 2½-in. line with 1⅛-in. tip). Standard sizes begin at 500 GPM and extend through 1500 GPM.

Volunteer Fire Departments for Rural and Suburban Community Service

THE NFPA Annual Meeting at Detroit adopted a completely revised edition of Section I of the NFPA Standard No. 192, "Volunteer Fire Departments for Rural and Suburban Community Service." (Price 50 cents.) This revision was made on the recommendation of the Committee on Fire Department Equipment. This standard is used extensively as a guide for the organization and equipment of volunteer fire departments. Not amended are sections covering volunteer fire department rules and regulations and laws and ordinances.

The new section on equipment discusses in detail the subjects of housing of equipment, location of fire stations, motorized fire apparatus for rural and suburban community service, maintenance of apparatus, care of fire hose, and care of nozzles and couplings.

The provisions regarding motorized fire apparatus are intended to be used in conjunction with the new NFPA Specifications for Motor Fire Apparatus specifically those covering pumpers and water tank trucks (NFPA Standard No. 19). The text is intended to serve as a guide to communities using the specifications for purchasing rural pumpers and tankers. For example, it is suggested that rural pumpers should have at least a 300-gallon water tank as compared with the 150-gallon tank standard for city service, that rural apparatus should have additional suction hose, that it should have at least 2 booster reels, and additional ladder equipment not standard on city pumpers.

Handling Hose and Ladders

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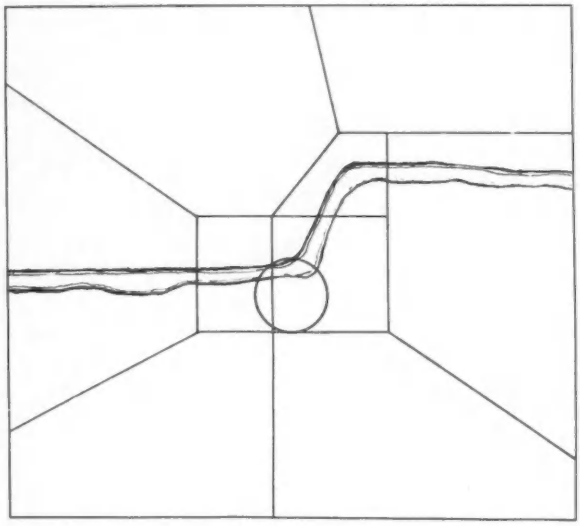
60 Batterymarch Street, Boston 10, Mass.

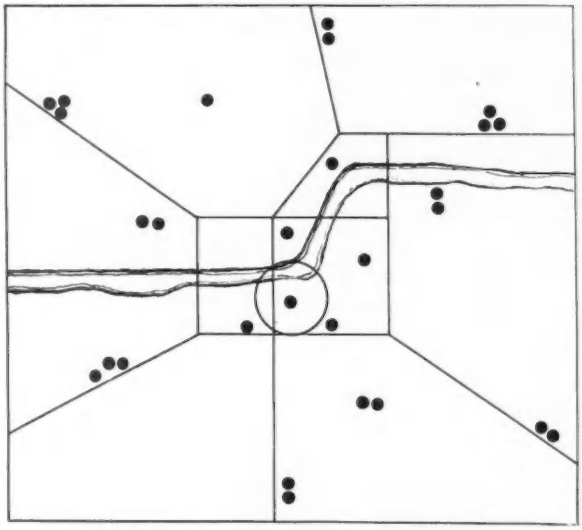
Fire Company Distribution for Civil Defense

By Horatio Bond, NFPA Chief Engineer



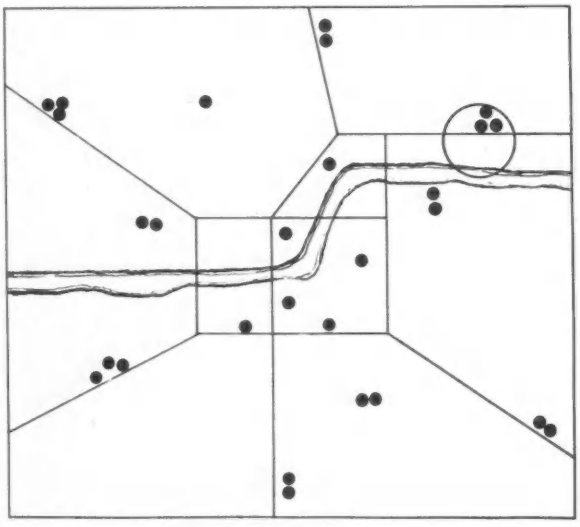
1. One Bomb on a City Center

In planning for civil defense, most cities are assuming one A-bomb will hit the center of town. The area of complete or heavy destruction by such a bomb is shown on the city map by a circle. The drawings used here are to no definite scale and refer to no particular city. Any other circle of damage assumed for the bomb can be used.



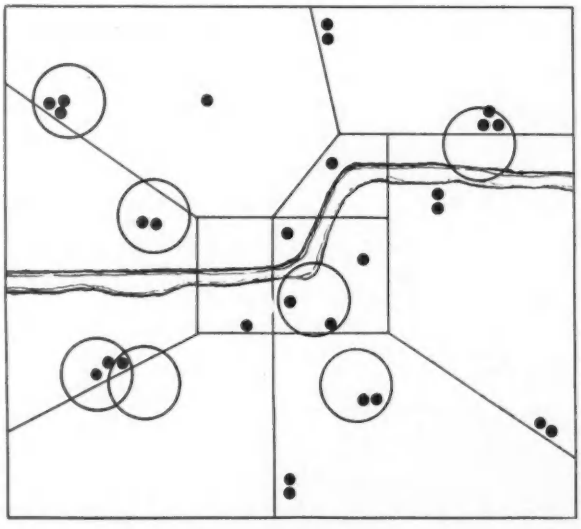
2. Fire Companies Moved Toward Edge of City

Some cities are thinking of dispersing fire apparatus in a pattern like this. Each dot is a pumper company. Ladder and other fire companies would be similarly distributed, but to keep this statement and the diagrams simple, only pumper companies are shown. In the example illustrated, only one of 28 companies would be lost.



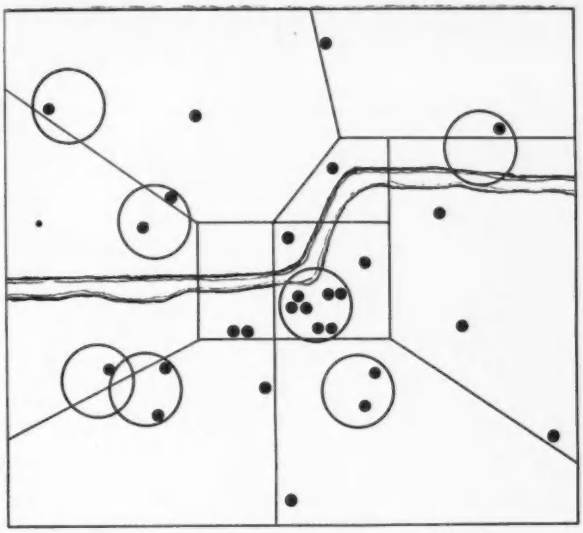
3. Oops! This One Missed!

A bomb is not likely to land as close to the aiming point as was shown in the previous diagram. It would just as likely hit a group of companies concentrated at one point anywhere in the city. This one got three pumpers at a dispersal point.



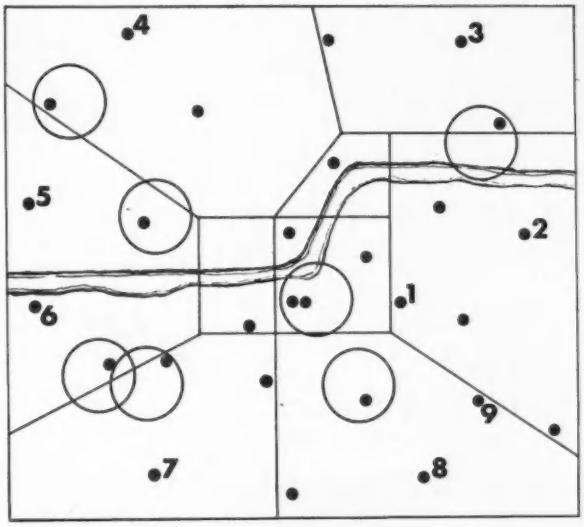
4. Bombs Fall Like This

Any city worth hitting would be hit, not by one, but by several bombs. They would fall in a random pattern, like this. The effect on companies dispersed as in this example, would be the loss of 15 out of 28 pumper companies.



5. Companies in Their Regular Stations

Now see what the loss might have been with the same bomb distribution and the companies in their normal locations: 16 of the 28 companies lost. The 28 companies may belong to a single department or may protect a metropolitan area.



6. Companies Evenly Spread Out

A more realistic distribution of fire companies is to spread them fairly uniformly about the city. Diagram shows the same random pattern of bombs, but only 8 of 28 pumper companies are lost. Five fire stations shown in the previous diagram were closed in effecting this redistribution, and nine new locations for companies (numbered) were required. With bigger circles of possible damage, it is simply a problem of spreading out *more*. This is purely schematic and does not take into account such factors as topography, building construction and density and other conditions influencing vulnerability.

Navy Receives Twin Awards

THE Boston Naval Shipyard and the Naval Ordnance Laboratory at Silver Springs, Maryland, tied for first place leading 187 entries in the naval installation section of the 1950 Fire Prevention Week Contest.

Top photo shows Rear Admiral Hewlett Thebaud, Commandant of the First Naval District at the Boston, Massachusetts, Naval Shipyard, presenting the First Place Award in the naval section of the NFPA Fire Prevention Week Contest to Captain Pleasant D. Gold, Shipyard Commander. Left to right: Joseph Quinn, Fire Chief, Boston Naval Shipyard; Fire Commissioner Michael T. Kelleher, City of Boston; Rear Admiral Thebaud; Captain Gold; Percy Bugbee, NFPA General Manager; George O. Q. Mansfield, Shipyard Protective Services Supervisor; Colonel Paul A. Hines, representing Mayor John B. Hynes of Boston, Massachusetts.

Bottom picture shows Rear Admiral Glenn B. Davis, USN Commandant, Potomac River Naval Command, presenting the First Place Award to Chief Herald W. Hirst of the U. S. Naval Ordnance Laboratory, Silver Springs, Maryland. Left to right: Fire Captain E. Walker; Fire Lieutenant J. R. Molesworth; Rear Admiral Davis, USN, PRNC; Fire Chief Hirst; Rear Admiral Shindler, Commander NOL; Captain A. J. Miller, USN Executive Officer NOL; Lieutenant Commander E. E. Somers, USN, Aide to Commander NOL.

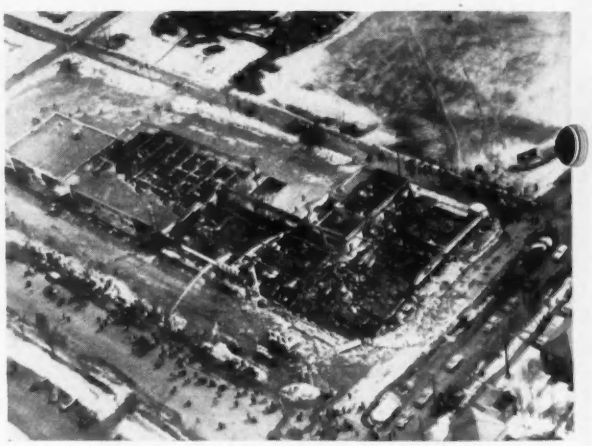
FIRES IN THE SPRING

South Kingstown, Rhode Island. March 29 (*Providence Journal — Bulletin Photo*). Six children lost their lives in this home when an oil stove in the kitchen exploded. Their mother stated that at the time of the fire all were sleeping. When she was awakened she tried to arouse the children but the only exit by door was blocked by fire. By the time the fire department was notified the children were beyond rescue and the one-story frame building was totally involved.

Cincinnati, Ohio. April 13 (*Times Star Photo by Howard Newman*). A watchman failed to make his rounds and a delayed alarm and an inadequate water supply helped make this fire a loss of $200,000. Three fire fighters from the Amberly and Deer Park Fire Departments were injured. Water supply consisted of a six-inch main 1400 feet away and a four-inch main 750 feet away from the building.

Sarnia, Ontario. March 24. (*Photo by Jim Flynn, Sarnia Canadian Observer*). One man lost his life and four other persons were injured when this fire involved six buildings and caused an estimated loss exceeding $100,000. A 30-mile-an-hour wind impeded the efforts of fire fighters from the Sarnia Fire Department, from the Polymer Synthetic Rubber Corporation, and from Port Huron, Michigan, for seven hours.

Rensselaer, New York. March 20 (*Acme Photo*). A janitor failed to shut off an oil burner in this church and fire developed in the meeting room, spread to the second floor, then to the attic where it mushroomed. Fire was beyond control on arrival of apparatus and total loss was an estimated $110,000.



St. Paul, Minnesota. April 1 (*Acme Photo*). An open cockloft and an open basement, both of which ran the full length of the building, helped fire to spread rapidly and destroy nine businesses in this shopping center. It was 52 minutes before the fire department received an alarm and despite the efforts of 12 engine, 2 hose, and 3 ladder companies, and the application of 30 hose streams, total loss amounted to an estimated $1,059,000.

Owassa, Michigan. March 17 (*Owassa Argus — Press Photo*). This fire originated in an unsprinklered drying tunnel 40 ft. by 380 ft., containing strips of paper thousands of feet long. A large number of sprinklers in other parts of the 1-story building operated but were unable to control the fire because of the enormous volume of intense heat released. A delayed alarm of twenty minutes was another factor in this loss of an estimated $1,250,000.

Making a Good Job of It

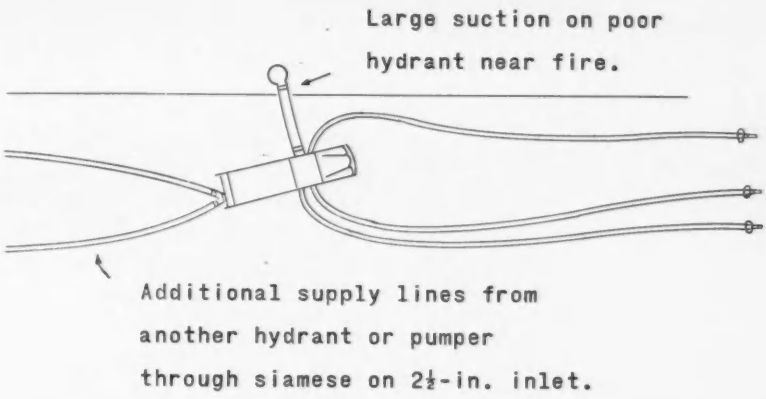
by Warren Y. Kimball

Collector Pumping

ORDINARILY, in American fire department practice a single hydrant or suction source is depended upon to supply a fire department pumping engine. Occasionally, however, an emergency arises where it is necessary to combine several relatively weak water sources to get enough water for an adequate supply. Examples of this are where pumpers must be supplied from several individual 2½-in. outlet connections from standpipes on bridges or in vehicular tunnels, or where several pumper lines are combined to supply a pumper operating a heavy stream device directly upon a large fire. Another situation would be where private water supplies such as "wall hydrant" outlets or yard hydrants must be utilized to supply a fire department pumper.

As the result of experience obtained in a vehicular-tunnel fire last year, Chief Peter Loftus of New York City has designed a 6-way collector to permit utilization of six 2½-in. lines to supply a 1,000-gallon pumper. Thus, six lines from a bridge or tunnel standpipe each capable of only 167 gpm could, in theory, fully supply a thousand-gallon pumper.

While the average fire pumper does not carry a 6-way connection and would seldom need such a connection in practice, there may be a number of occasions where it is necessary to supply a pumper through two or more 2½-in. lines.


Large suction on poor hydrant near fire.
Additional supply lines from another hydrant or pumper through siamese on 2½-in. inlet.

There are several ways of doing this, utilizing the standard equipment carried on most pumpers including those meeting NFPA national standard specifications. Fire companies should practice these hook-ups so that their limitations will be understood and so that no time will be lost where collector pumping becomes necessary.

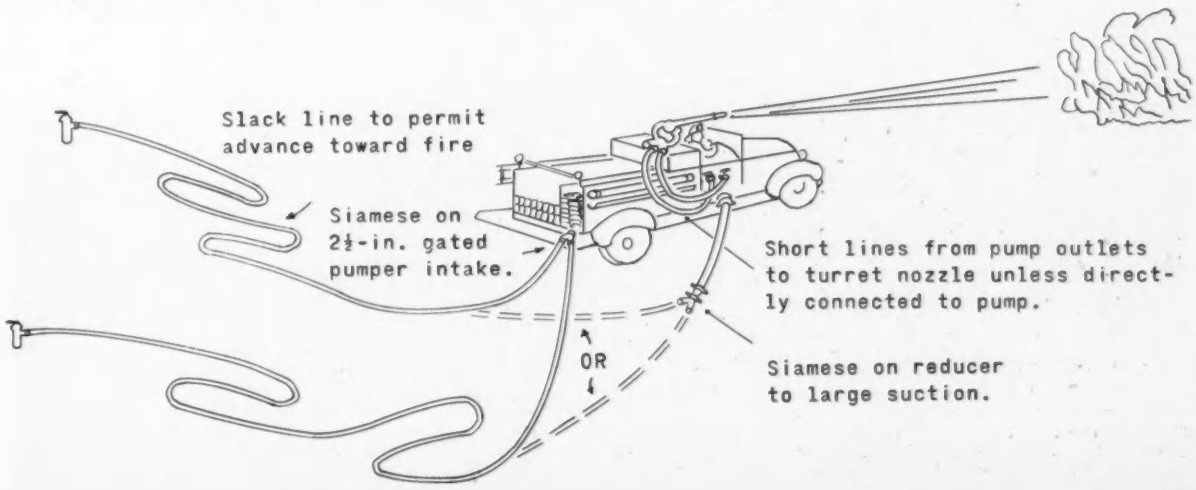
Standard equipment for pumpers includes a 2½-in. siamese. Many recently manufactured pumpers also have a 2½-in. gated suction intake in addition to the larger suction connections. By attaching the siamese (which preferably should be gated or have clapper valves) to the 2½-in. intake two 2½-in. lines can supply the pump. Where there is no 2½-in. intake, the siamese can be attached to the reducer furnished to reduce the large suction hose to 2½-in. hose thread. Some fire departments provide gated 2½ to 4½ siamese connections (or other appropriate sizes) for the pumper suction intakes.

If the pumper being supplied by the collector method is intended to service a 1½-in. or larger nozzle tip on a "wagon pipe," at least 600 gpm will be needed. This will mean at least 300 gpm (20 lbs. friction loss per 100 ft., 2½-in. hose) through two supply lines, or 200 gpm (10 lbs. friction loss per 100 ft., 2½-in. hose), through three supply lines. Three supply lines could be connected by using a 3-way "siamese" or by connecting a second siamese into one intake of the first siamese. Also it is possible to use 2 suction intakes (say both a 4½-in. intake supplied by a siamese attached to the reducer and a 2½-in. intake.)

If 3-in. or other large hose is available, it should be used. With fair hydrant pressure, two 3-in. lines will supply a 750 gpm pumper.

Where hose is carried for fire to hydrant lays, appropriate double couplings can be used where needed.

Unless monitor pipe is directly connected to the pump, it is desirable to carry short pieces of hose on each monitor intake of sufficient length to reach the pump outlets with minimum friction loss and loss of time. Or one short length of 3½-in. hose can be provided between a pumper outlet of sufficient capacity and the monitor nozzle.


Slack line to permit advance toward fire
Siamese on 2½-in. gated pumper intake.
OR
Short lines from pump outlets to turret nozzle unless directly connected to pump.
Siamese on reducer to large suction.

Public Fire Protection in Japan

by George W. Angell

Mr. Angell has been serving in Japan as Chief Fire Administrator, Public Safety Division, G-2, U. S. General Headquarters. In the May 1951 issue of FIREMEN he reported the conditions of the Japanese Fire Service when his office began operations. This concluding article outlines some of the corrective steps which have been taken to bring the Japanese Fire Service to a more efficient level of operation.

DURING the fall of 1946 and throughout 1947 work progressed along a plan outlined and recommended by the Fire Branch. A suitable site for a National Fire Defense Board was found and negotiations were opened to procure the buildings and grounds, formerly a part of the Central Aeronautical Research Institute operated by the Japanese government. Training manuals were prepared. A telephone fire reporting system was designed. Fire prevention sections were established in the fire departments of all cities and the first national Fire Prevention Week in the history of Japan was held in October of 1946 and has been observed each year since that time. Improvements were made in the quality of linen fire hose universally used by public fire departments in Japan; the manufacture of cotton rubber-lined hose was introduced; and the allocation of gasoline was increased to an amount which permitted a limited amount of drilling with the apparatus. Much progress was made in instituting administrative reforms, eliminating bureaucratic influences and introducing more efficient office procedures. On December 23, 1947, the Law of Fire Defense Organization, the first major legislation affecting the fire service, was promulgated. This law, effective on March 8, 1948, provided for separation of police and fire departments, municipal responsibility for fire protection within the respective autonomous bodies, and establishment of a National Fire Defense Board.

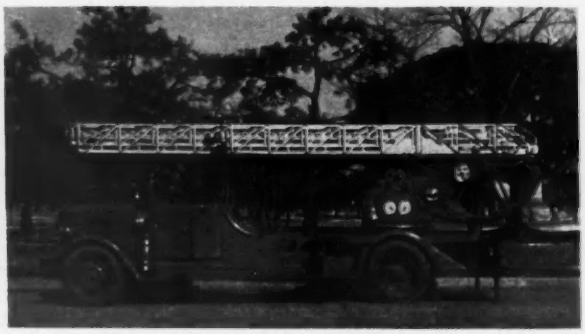
To meet the urgent need for training in modern fire-fighting techniques a school for fire department instructors was established by the National Fire Defense Board and it is now attended by department personnel from all sections of Japan. In courses of four months' duration they are taught practical and theoretical phases of modern fire protection and prevention. A modern tower and a drill field have been constructed and are in use by training classes. To date 276 students, including twelve from Okinawa, have completed successfully the course for fire department instructors.

THE Arson Investigators' School, founded by the National Fire Defense Board, offers instruction in the technical and scientific subject of fire investigation to carefully selected members of fire departments throughout Japan. So far 64 students have completed successfully the three months' course for fire investigators. Not a few of them have already justified this type of training for firemen by solving cases of incendiarism and obtaining convictions of arson. The Fire Service Law, the second major legislation affecting the fire service, promulgated on July 24, 1948 and effective from August 1, 1948, made provision for investigation of fire by fire department personnel. It also gave fire departments certain authority in matters pertaining to fire prevention they never had had previously.

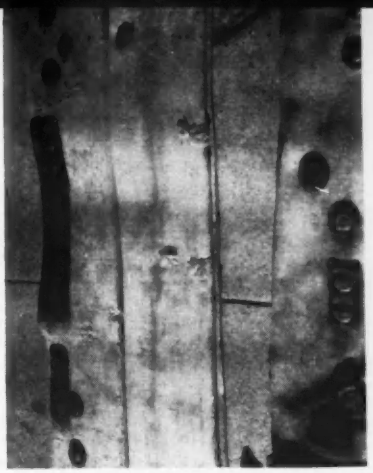
PROPER maintenance of mobile equipment was a serious problem for fire departments after the conclusion of the war. Many departments had to rely on private shops for such work and frequently exhorbitant prices were charged for inferior workmanship. In an effort to correct this deficiency the National Fire Defense Board established a Mechanical School for training fire department mechanics. Firemen from all sections of Japan who come to this school receive thorough instruction, both practical and theoretical, in various phases of motor and pump repair and maintenance. They are also instructed in procedures and techniques for setting up maintenance and repair facilities in their own cities. Fifty-two students have completed successfully the mechanical training course of three months' duration.

Besides the three training schools, perhaps the most active unit in the National Fire Defense Board is the Fire Research Institute. Here tests of fire extinguishing equipment, fire resistive coatings, explosibility of dusts, spontaneous ignition characteristics of various materials, sprinkler equipment, electrical appliances, and other devices related to fire protection are made. A labeling service has been established for those materials and appli-

Two-way radio cars in service at the Tokyo Fire Department. Similar equipment has been provided in Osaka, Yokohama, Nagoya, Kyoto and Kobe. Other cities soon will be equipped.



Japanese-made aerial. Copied from a German model imported in 1932. Unlike American apparatus, this machine carries no manually raised ladders.



Linen fire hose, 2½-in., found in service in Tokyo Fire Department. Many breaks were repaired by darning and others by using leather washers and copper rivets.

ances which meet the rigid specifications and pass the tests. The Fire Research Institute has in recent months concentrated its efforts on the extinguisher field with a view toward improving the quality of these vital appliances. The fifty-three manufacturers of fire extinguishers whose products have been approved now display proudly on each extinguisher the Fire Research Institute's seal of approval.

For the purpose of grading Japanese cities as fire risks the Standard Grading Schedule used by the National Board of Fire Underwriters in the U. S. was adapted for use by the engineers of the Fire Research Institute. While it is true that the grading of cities and towns thus far completed has placed most of them in the lower grades, the engineers have gained valuable experience in making proper application of the grading schedule.

STATISTICS for the past five years indicate that much progress has been made both in the fire prevention and fire protection programs:

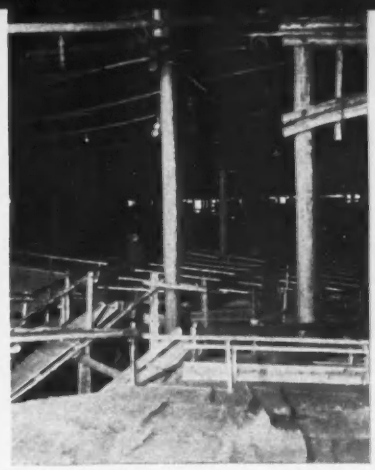
Typical flimsy wooden construction found in the blackmarket areas of all Japanese cities. This picture was taken in downtown Tokyo. *(Photo by U. S. Army Signal Corps.)*

Year	*No. of fires reported*	*Bldg. area loss per fire*	*No. new bldgs. constructed†*
1946	14,644	—	129,982
1947	18,591	201 tsubo*	383,196
1948	16,895	51 "	537,832
1949	18,423	70 "	394,200
1950	19,150	41 "	349,000

* One tsubo—approximately 36 square feet.
† Represent the number of buildings approved officially. Many more were constructed with black-market materials.

The increase in the number of fires reported for 1949 and 1950 does not mean necessarily that a greater number of fires occurred. The great reduction in "Building Tsubo loss per fire" seems to indicate that fire departments are being notified sooner than before and that fire department training is resulting in greater fire fighting efficiency.

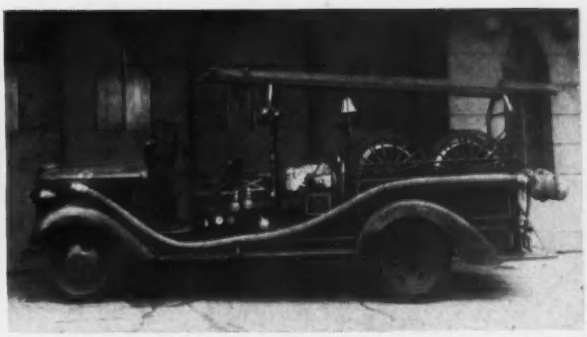
Several Japanese fire officials already have become members of the National Fire Protection Association. Many Japanese fire department chiefs are desirous of visiting the United States to study fire prevention and fire protection It is hoped that some will be able to do so because improvement in efficiency of their departments should result in reduced fire losses from which both the United States and Japan will benefit.



Ampitheatre of an arena erected in Tokyo. Seating capacity about 7500. A few steel bolts were used in fastening the larger timbers together but most of the others were held in place with bailing wire or rice-straw ropes. *(U. S. Army Photograph.)*

Concrete and steel drill tower erected at the National Fire Defense Board Training School.

Japanese-made 750 gpm pumper with 750-gallon water tank. Designed by the Fire Branch and the Mechanical Section, Tokyo Fire Department.



Japanese-made Nissan pumper, typical of most found in service throughout Japan. Few changes were made in this model between 1925 and 1945.

Winners of the 1950 Fire Waste Contest

ON April 6 the winners of the 1950 Fire Waste Contest, sponsored by the Chamber of Commerce of the United States of America, were announced in Washington. This contest is for local chambers of commerce members of the Chamber of Commerce of the United States.

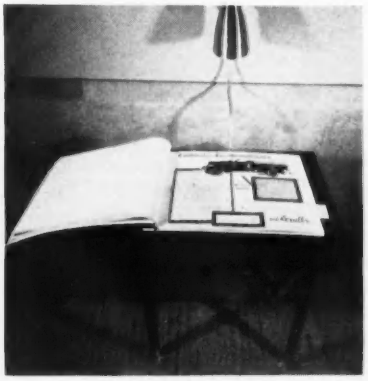
In some cities, the Chamber of Commerce takes an active lead with an assist from the local fire department. In other cities, the fire department prods the local chamber into action so that its city may receive recognition for fire prevention activities. The winning cities are picked in population groups according to the improvements they show in fire record, the improvements which are made in the local fire department, water supply, building code, and such items, and on the thoroughness and effectiveness of a campaign of fire prevention.

The reports come in all sorts of sizes, shapes, and forms. Pictures of some of the reports submitted by the winners are shown here. An elaborate report is not necessarily a winner. It must be backed up by real accomplishment.

(*Please turn to page 18*)

Hartford's Book. The city of Hartford, Connecticut, winner in Class III cities, 100,000 to 250,000, presented its story of its fire prevention work in a large handsome book

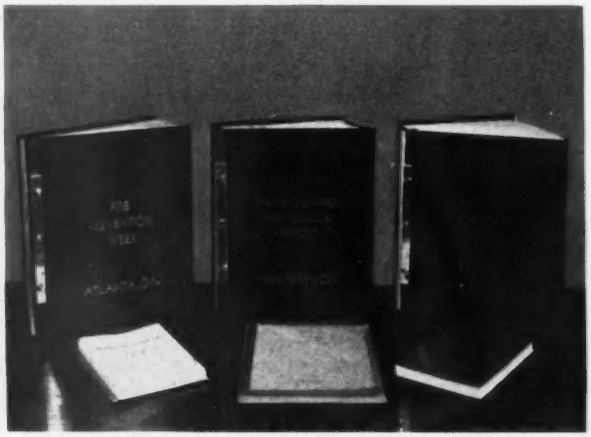
Parkersburg's Report Was Best for Form. Parkersburg, West Virginia, winner in the Class V cities, 20,000 to 50,000 population, turned in what judges considered the best form of report. This was in two well-indexed volumes, page size 8½ x 11 inches.



Report from Bethlehem, Pennsylvania. Bethlehem was winner of the Class IV cities, 50,000 to 100,000 population. This entry consisted of a large book mounted on its own table with reading light. Bethlehem has one of the largest volunteer fire departments in the United States.

Small City Reports. Here on a table is a selection of the reports from a group of small city entrants in the Inter-chamber National Fire Waste Contest.

Detroit Billboard Report. Detroit presented the facts about its record on a portable board. It will be displayed at various meetings during 1951, including the meeting of the NFPA in Detroit in May. Detroit's entry received the award in cities over 500,000 population and the Grand Award for all cities in the contest.



Atlanta's Exhibit. Atlanta, Georgia, was winner in Class II of the contest for cities between 250,000 and 500,000. Atlanta's entry consisted of a main report on the year's activities with separate volumes for activity during Fire Prevention Week and Clean-Up Week, and additional exhibits of laws adopted during the year.

NFPA Member Departments

Vashon Island Fire Department, Vashon, Washington

THIS department has a total membership of 45, including 40 active fire fighters. It is organized into 4 separate fire companies, each with its own station, and protects a community of 80 square miles in area and 6500 population. Elected officers of the department are Chief Charles V. Kimmel, Assistant Chief Leon Herbert, Association President A. J. Gorham, and Secretary A. J. Anderson.

There are five pieces of apparatus in service. Four trucks have 500-gallon tanks and one has a 360-gallon tank. One new truck also has high-pressure fog equipment. The local chamber of commerce owns the ambulance which is operated by members of the fire department, 22 of whom carry Red Cross advanced first aid cards. Training consists of interdepartmental drills with the assistance of the nearby Seattle Fire Department.

A 4 mill levy in the county fire protection district helps to support the department. These tax funds are administered by 3 elected commissioners and the average tax income from this source is about $9000. Members of the department also conduct an annual ball which has proved very successful and this spring has sponsored a play as a means of raising additional funds to help pay for the new fire truck. Currently a campaign is being conducted to encourage the installation of more hydrants and improve the water supply in the outlying districts.

Steinbach Volunteer Fire Brigade Manitoba, Canada

CHIEF EDWARD LOEWEN, Assistant Chief Henry K. Reimer, and Secretary John B. Schellenberg are the officers of this fire brigade. There are 20 active fire fighters and the department protects the town of Steinbach and suburbs, including a population of 3000.

Income is derived from taxes and the apparatus is owned by the municipality. There is a crash tender with a 250 gpm pump and a 400 gallon tank, and an auxiliary pumper with a Fairbanks Morse piston pump.

YOUR OPPORTUNITY!

National fire equipment manufacturer expanding product lines requires high calibre representatives in Eastern and Midwest areas. Unusual earnings and advancements for qualified sales representatives. Persons selected will receive training and field assistance. Write for interview giving details of experience. All inquiries confidential. Reply to Box 123, FIREMEN.

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Vaseline Sterile Petrolatum Gauze Dressings

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Professional Products Division

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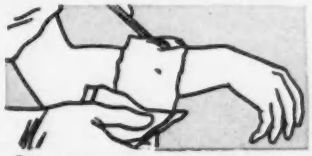
always sterile always ready

For immediate and easy application, to dress a Burn, an Abrasion, certain other Surface Injuries.

ready-made . . . compact . . . soothing . . . non-sticking . . . non-contaminating . . .

USED DIRECT FROM HANDY FOIL-ENVELOPE

To Open foil-envelope, cut with scissors along dotted line on back of envelope . . . or in an emergency, tear off seal carefully below this line . . . end of dressing is pulled out of envelope with one hand (use forceps, if handy), while envelope is held with other hand.



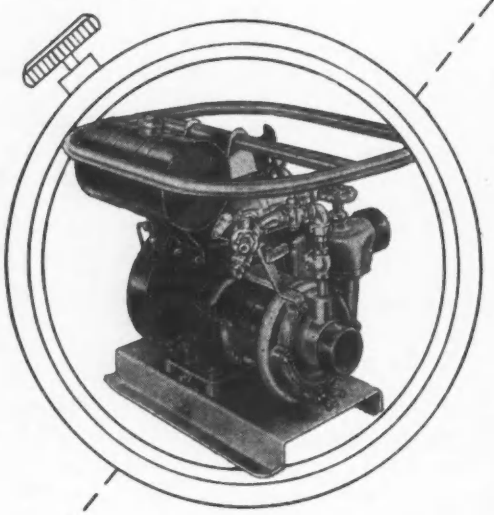
Cover damaged surface and area two inches beyond with two layers or more of petrolatum gauze dressing . . . then apply sterile dry bandage to keep clean and hold gently in place—using first-aid principles . . . have injury examined by a physician.

Two Sizes:

Unit envelope: one 3" x 36" dressing.
Duplex envelope: two 3" x 18" dressings.
Six envelopes to the illustrated carton.

OBTAINABLE FROM YOUR USUAL SOURCE OF MEDICAL SUPPLIES

COMPACT as a watch!



THE compactness of this 3XC booster pump makes it easy to carry on your truck any place.

Delivers 300 GPM to booster tanks. Ideal for pumping out basements —handling dirty water without damage, thus saving wear on your expensive equipment. When connected to booster tank can be used to fight grass fires with truck in motion.

• • •

We are also the manufacturers of the Barton-American Front and Midship Mounted Fire Pumps.

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AMERICAN-MARSH PUMPS
BATTLE CREEK MICHIGAN

EASY SOLUTION FOR SMOKE EJECTION PROBLEMS

THE "TRUMPET" SMOKE EJECTOR

If you're looking for a practical, easy-to-handle smoke ejector — here's one that does a man size job, yet weighs only 35 lbs.

It moves over 2000 cubic feet of air per minute by actual ASHVE code tests. Quickly hooks over any window, door or other opening. Roll canvas drop prevents back draft. Operates on regular house current or 115 volt AC or DC electrical generating apparatus (60, 50 or 25 cycle).

Sturdy ¾-inch ply construction in channel iron frame. Optional hinges in middle permit more compact storage.

Fan has 3-blade airplane type propellers for maximum efficiency.

See your Wooster Brass Representative or write direct.

HOSE BRASS GOODS WB LINE THE WOOSTER BRASS CO. WOOSTER, OHIO

THE WOOSTER BRASS CO.
WOOSTER OHIO

Winners of the 1950 Fire Waste Contest

(Continued from page 16)

Judges in the contest this year were Eugene Arms of the Mutual Fire Prevention Bureau of Chicago, John A. Neale of the National Board of Fire Underwriters of New York, and Percy Bugbee of the National Fire Protection Association.

Fort Collins Book. The report of Fort Collins, Colorado, won in Class VI, cities under 20,000 population. A simple, well-arranged report in an inexpensive, but attractive, binding did the trick for this city.

IAFC Conference to be Held in Grand Rapids

THE 78th Annual Conference of the International Association of Fire Chiefs will be held at Grand Rapids, Michigan, August 14–17, 1951. Chief Frank Burns, of that city, will be host chief.

The Hotel Pantlind has been selected as headquarters for the conference, but a number of other hotels in the area will also be available to delegates. Information concerning reservations may be obtained from Chief Burns or from Mr. Eddie Brunette, Assistant Manager of the Hotel Pantlind.

FIRE TRUCK FOR SALE

1942 V-8 COE Ford Crash Truck, American La-France Equipment. American Marsh Pump, 300-gallon tank. Equipped with CO-2, fog equipment, ladders, siren, etc. Exceptionally clean. This fire truck was purchased in Navy surplus and has never been in Civilian use.

FULTON AUTO EXCHANGE
190 Edgewood Avenue, N.E.
Atlanta, Georgia

Telephone: Main 2134

Assistant Chief's Station Wagon

THE Davenport, Iowa, Fire Department, under Chief Lester Schick, has recently placed in service a new Oldsmobile "88" all-metal station wagon to be designated as an Assistant Chief's Car. An Assistant Chief and a chauffeur will respond to all general alarms in the city, with an extra man being carried during non-vacation periods. The picture above shows the car, First Assistant Chief Walter Schroeder, chauffeur, and the equipment to be carried. The car carries the following equipment:

2 1-hour self-contained rebreathing type M.S.A. oxygen masks with extra tanks and cardoxide. (Included in this case is a stethoscope, to be used by doctors only.)
1 E & J resuscitator, inhalator, and aspirator.
1 box containing 2 extra inhalator tubes and 2 extra oxygen tanks.
3 Handie Talkie Motorola radio sets, including a complete extra set of batteries for each.
1 1,000-watt Homelite generator.
1 box containing 2 50-foot lengths of Homelite extension cords, 1 adapter plug, one end with female twist lock plug and on the other end plain male plug. 1 extra pull rope.
2 500-watt floodlights (new small type).
1 pack-type oxygen-acetylene emergency cutting outfit, with 25 feet of hose attached, complete with gloves, tools, extra tips, goggles, and lighter.
1 box containing extra oxygen and acetylene tanks.
1 saw gun complete for metal or wood with ¼-in. electric drill.
1 50-foot extension cord for gun, an adapter plug, some ½-in. steel drills with ¼-in. shanks to start holes for saw blades, chisel, punch, and ball peen hammer.
3 Big Beam electric lanterns.
1 Bit Beam electric red flasher light.
1 2-quart vaporizing-liquid pressure type extinguisher.
1 hydrant wrench.
3 salvage covers.
1 first aid and burn kit.
1 rubber body pouch.
1 tool box complete with the following: 1 electric wire cutter; 2 booster spanners; 1 tin cutter; 1 small wrecking bar; 1 adapter, garden to booster hose; 2 sprinkler tongs; 1 electrician's pliers; 1 battery pliers; 1 set of tools for oxygen mask; 1 pair of white canvas gloves; 3 wood gas pipe plugs, and assorted small tools.

All Davenport fire stations have NFPA memberships.

Fight Brush Fires From Moving Truck with a HALE Type FZZ PORTABLE PUMPING UNIT

Picture below shows fire-fighter handling stream from a Hale Type FZZ Portable Pumping Unit mounted on a moving truck. An FZZ can be mounted permanently on truck or carried as a portable unit for pumping into or *from* booster tank. This portable arrangement is extremely useful both for fighting brush, field or forest fires while in motion; or pumping from pond, stream or well direct.

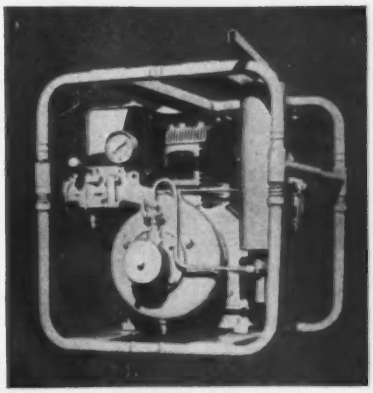
An FZZ will supply from draft, 60 U. S. Gallons per minute at 90 lbs. pump pressure and up to 150 U. S. Gallons per minute at 30 lbs. It can supply two capable fire streams through 1½" hose lines using nozzle tips up to ½".

A frame-mounted FZZ (with carrying handles turned in) is pictured at right. Unit is also available mounted on two wheels or on rubber-cushioned steel channels.

Write today for new FZZ Folder
Let us know if you want a demonstration

HALE FIRE PUMP COMPANY
Conshohocken, Pa.

Fire Pumps in All Standard Capacities



Nip Brush Fires in the Bud with a HALE FZZ

The "NEW YORKER"
(No. 5A--Regulation)
IN LEATHER

CAIRNS
HELMETS

The "CLIFTON"
(No. 900--Regulation)
IN PLASTIC

CAIRNS & BRO., Inc. - Allwood, Clifton, N. J.
Write for Catalog 330

Announcing the Willys-Model
BLITZ BUGGY FIRE FIGHTER
with FOUR WHEEL DRIVE

Dispenses 600 lbs. Hi-Pressure Fog or
Solid Stream while moving 5 to 20 m.p.h.

First Aid equipment for large fire departments
Complete unit for rural fire departments

Combining all the features of the world-famous Willys Four Wheel Drive — powered by new Hurricane Motor — with our HPG pump, 150 gallons of water and other Blitz Buggy equipment, we have produced a piece of apparatus worthy of a place in any Department.

Write for details and specifications

HI-PRESSURE FOG EQUIPMENT CO.
OLD FORGE, NEW YORK

Maintaining Pumpers

By Robert C. Byrus
Fire Protection Engineer,
Engineering Extension Service,
Iowa State College
Member, NFPA Committee on Firemen Training. Chairman of Subcommittee 'Developing a Guide for the Training of Pump Operators.'

THE importance of the part fire apparatus plays in control of fire emergencies cannot be over emphasized. Fire apparatus that does not perform up to its full capabilities could permit a routine fire to reach major proportions. However, assurance that top operation will be continuously maintained is directly dependent on the human element.

The fire chief has responsibility for the proper functioning of fire apparatus. This responsibility is usually delegated to subordinates, particularly to the pump operator. The pump operator is probably the most important single factor in a maintenance program to keep fire apparatus in top operating condition at all times.

It is important that there be a definite policy in every fire department to determine what constitutes normal maintenance, what constitutes apparatus repair, and who performs each function. For the purpose of this discussion only normal maintenance is considered. Adjustments that affect the functioning of the apparatus is not normal maintenance. This is repair and should be defined by a clearly stated local policy. For example, it is rarely desirable to permit a pump operator to change carburetor or distributor adjustments. It is essential that there be definite responsibility, clearly understood as to who shall perform the preventive maintenance service. With the assignment of such responsibility should go authority to take steps necessary to correct any deficiencies.

When a fire truck is in need of repair, arrangements should be made to complete the repair without unavoidable delay. When parts need replacement they should be promptly secured from the supply source. Order parts carefully by the manufacturer's number. Every effort should be made to have the fire truck out of service for as short a time as possible and trucks out of service should be replaced by reserve or "covering" equipment.

Routine when Coming on Duty

THERE are several items of primary importance about a fire engine that may vary from time to time. Among these are the condition of the battery, the amount of fuel in the tank, the oil level in the motor, the amount of water in the radiator and in the booster tank, the air pressure in the tires, and similar items. The remedy is usually self-evident.

If the gasoline tank level is down to three-quarters of capacity after a run, it should be filled. Modern motors require a high grade fuel. Gasoline bought by municipalities for general service may not be best for fire truck motors. Fire service motors demand the best gasoline available, especially in view of the fact that because of intermittent operation gasoline economy is seldom a factor, while assured performance definitely is.

When the oil level gage, or dip stick, shows that the oil level is below the full mark, the required amount should be added. Oil in fire trucks should be of high quality and of proper grade. Because of the nature of service oil changes for fire apparatus should be on a calendar basis, rather than a mileage basis. Oil contamination can be minimized by running motors long enough to get them thoroughly warm each time they are started. This helps to vaporize contaminating products in the crank cases.

The water level in the radiator should be checked. The radiator should be full at all times. Any variation should be carefully investigated to determine the cause.

All lights should be checked by turning them on and making a visual examination. These include head lights, tail lights, spot lights, gage lights, and many others. Any that are burned out should be replaced. Keep spare bulbs on hand. Failures due to loose connections or worn wiring should be corrected by tightening or cable replacement.

The condition of the battery, or batteries, should be checked with a hydrometer that measures the specific gravity of the liquid. This is done by drawing electrolyte from the battery into the glass tube by means of a rubber bulb. A weighted

(*Please turn to page 22*)

DO YOU KNOW

How many of the 11,000 Americans who die in fires annually live on the nation's farms?

(SEE ANSWER BELOW)

ANSWER: 3500 farm residents perish in fires each year. The replacement of farm buildings destroyed by fire *alone* requires cutting 5000 acres of United States forests every year.

THIS LOSS OF LIFE AND PROPERTY MAY BE GREATLY REDUCED WITH

INDIAN
FIRE PUMPS

Outdoor and interior fires in rural or city areas can be stopped before they spread by fast action with portable INDIAN FIRE PUMPS! Tank holds 5 gals. of clear water and carries slung on the back. CIVIL DEFENSE agencies should investigate these great fire fighters.

This new fire truck carries INDIAN FIRE PUMPS as standard equipment.

Photo courtesy H & H Truck Tank Co., Jersey City, New Jersey

● **GET A SUPPLY of INDIAN FIRE PUMPS now to protect home, buildings and property against fire bombs. This is important!**

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Roaster-fresh coffee...on INSTANT call!
Long hours of waiting, like big blazes, put plenty of heat on firemen! That's why good coffee is always welcome . . . and Nescafé* a fire-house natural.
No pot. No mess. No warmed-up, bitter brew. Nescafé makes roaster-fresh coffee right in the cup . . . with every cup made *right!* Simply put in a teaspoonful, add boiling water and stir . . . *for pure coffee enjoyment!*
Economical, too! The 4-oz. jar makes as many cups as a pound of ordinary coffee, yet costs at least 20¢ less.
More people drink
NESCAFÉ
than all other Instant Coffees!
NESCAFÉ

*Nescafé (pronounced NES-CAFAY) is the exclusive registered trade-mark of The Nestlé Company, Inc. to designate its soluble coffee product which is composed of equal parts of pure soluble coffee and added pure carbohydrates (dextrins, maltose and dextrose) added solely to protect the flavor.

Bought Any Hose . . . Lately?

. . . if so, you've found out that fire hose is in short supply and darn expensive. So now, more than ever, protect your hose — don't gamble against damage from mildew and rot.

The Circul-Air, air conditioning fire hose dryer, circulates pre-warmed fresh air through wet, coiled hose at the rate of 5 to 6 air changes per minute. Circul-Air is designed to lengthen hose life, save man hours and hard work — improve the appearance and functional design of new fire houses, and to save valuable floor space. NO OTHER HOSE DRYING METHOD IS SO FAST, SO EASY TO USE AND SO ECONOMICAL.

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THESE TOWNS . . . AND 1000 OTHERS PROTECT THEIR HOSE WITH CIRCUL-AIR

AUGUSTA, GA. : ALLENTOWN : BOSTON : BURLINGTON : CHICAGO : COLUMBIA, S. C. : COLUMBUS : ERIE : DETROIT : GALVESTON : GREENBORO : MEMPHIS : LAKE CHARLES : LOUISVILLE : MILWAUKEE : NEWARK : OKLAHOMA CITY : OMAHA: PROVIDENCE : ROCHESTER : SEATTLE : SHREVEPORT : SANTA FE : TOLEDO : TWIN FALLS : TRENTON : WINNIPEG : WHEELING : MIAMI: NEW BRITAIN : BUFFALO: GRAND RAPIDS : HOUSTON : YOUNGSTOWN : WASHINGTON, D. C. : DAYTON: FITCHBURG : BIRMINGHAM : NEW HAVEN : AKRON : JACKSONVILLE : KANSAS CITY : PENSACOLA : MERIDEN : ST PETERSBURG : PHILADELPHIA

New Hose Drying Manual tells how to dry, store and conserve fire hose.

Send for your copy today!

THE CIRCUL-AIR CORPORATION

575 East Milwaukee Detroit 2, Mich.

(*Continued from page 21*)

glass float will indicate the strength of the solution. The hydrometer measures the specific gravity of the liquid. When the float is low, the specific gravity is low.

Maintaining Pumpers

A fully charged battery will have a specific gravity reading of 1280. (*Note:* This is actually 1.280, but in common usage the decimal point is forgotten and the reading is called twelve eighty.) As the battery discharges, the electrolyte solution becomes weaker. A reading of 1250 indicates a charge of about 75%. 1225 indicates a charge of about 50%.

When testing the electrolyte in a battery with a hydrometer care must be taken to avoid spilling or dropping the solution, as it contains sulphuric acid. A small glass or a rag can be used to catch drops from the tube inserted into the battery. Spilled acid may be neutralized by prompt use of bicarbonate of soda.

The hydrometer must be filled just enough to permit the float to be suspended without touching top or bottom. It must be held in a vertical position so the float does not touch the sides. The most accurate reading is obtained at eye level.

If the battery reading is 1225, or half charge, it should be immediately recharged. It is better not to permit the battery to fall this low, especially in the winter when battery effectiveness is reduced by low temperature.

The fluid level in the battery should be below the full mark to permit the liquid to expand when heated during charging. Use only distilled water. Do not over fill with water so that the electrolyte overflows the cell opening, as the solution has a corrosive effect. The level should be about ½ inch above the plates. The electrolyte level should not be permitted to fall below the top of the plates.

The battery should be kept clean and securely fastened. Wipe the cover, terminals and cables as necessary. A light film of petroleum jelly or grease may be used to reduce corrosion at the terminal. This may accumulate dust but it can be wiped clean and recoated as necessary.

Tires should be given a visual examination to detect unusual signs

of wear and presence of foreign articles in the tread or lodged between duals. A tire pressure gauge is used to assure that the air pressure is within the recommended limits. Any valve caps that are missing should be replaced. If chains are in use they should be examined for wear and proper adjustment.

The hood should be raised and the motor examined for any signs of leaks, looseness, chaffing, or missing units. Any gasoline, oil or water leak should be traced and the proper corrective measures taken. Drip pans may be used, but should not be filled with sawdust or other combustibles. The motor should be wiped clean with a rag. A spotless motor is usually a sign of interest on the part of the operator or department. Frequently, points of potential failure can be detected when the task of cleaning is being carried out. Painting the motor is a help in keeping it clean.

The pump and chassis should be examined for its condition. Valves and levers should work easily and smoothly and should be in the proper position for the desired emergency operation. Caps on the suction and discharge outlets should be in place and should not stick or bind. The threads should be cleaned with a brush, using flake graphite as a lubricant. Cracked or grooved gaskets should be replaced. This will usually correct sticking. Check relief valve or pressure governor for proper setting.

All tools, equipment and appliances should be securely fastened in their normal mountings. A visual check of these is usually sufficient at this time. Especial attention should be given to nozzles and nozzle tips to assure that each size is in its proper place. The pump operator will then know what nozzle tips are in use if called on to operate his pump. No cleaning rags or other foreign materials should be allowed to remain stored in nozzles, suction hose, or in any other appliance where they may obstruct the flow of water. The condition of the hose load also deserves attention.

Routine after Every Run

EVERY time the apparatus motor is started the operator should pay close attention to the motor

(*Please turn to page 24*)

Friend of the Firefighter!

MIDWESTERN
PROTECTIVE CLOTHING

The Original Mackinaw Striped Safety Coat

Reduces Accidents - Saves Lives

Several years ago, Midwestern developed the *original* striped safety coat. The highly visible stripes are moulded to and vulcanized as part of the material. Thousands of Midwestern Safety Coats are serving fire departments throughout the world. Service records prove these garments not only offer high safety visibility, but have the qualities required to withstand the rough usage required in your hazardous work of protecting life and property against fire.

All Midwestern Safety Coats have the moulded-in yellow stripes which are a part of the garment and not painted or sewed on. The *original* Midwestern Safety Coat will give you trouble-free protection and dependable service.

PROTECTION - COMFORT - SERVICE

Largely through superior quality, design, fabric texture and advanced features, Midwestern is a leader in the field of firemen's clothing.

For full information on our complete line, see your Midwestern dealer. A letter to the factory will also bring you material samples for your inspection

MIDWESTERN MFG. CO., Mackinaw, Illinois
Manufacturers of the Famous **MACKINAW Coats**

Specify the finest!

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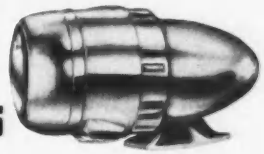

Clear the way through densest traffic with the commanding, deep-throated C-6 Federal siren. Get *full 360°* protection with Federal's revolutionary Beacon Ray light, the light that protects from all sides, not just front and rear as other types of lights.

C-6 SIREN

BEACON RAY LIGHT

With this ideal Federal combination, you're assured of the ultimate in signalling efficiency and protection for your equipment.

Specify the finest—**FEDERAL!**

Write today for Emergency Signals Bulletin

FEDERAL ENTERPRISES, Inc.

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8717 S. State Street **Chicago 19, Illinois**

gages. The proper interpretation of the readings will give the pump operator a definite indication of the performance of the motor.

When the motor is running at more than idling speed the ammeter should show either a slight charge,or a zero reading. A discharge reading should be reported to the proper officer as soon as possible. When the motor is first started the ammeter may show an initial heavy charge but should drop back after a short period of operation. This indicates that the generator has restored the charge.

The oil pressure gage should be observed immediately after starting the motor and periodically during the entire time of operation. The reading on the oil gage does not indicate the quantity of oil in the motor. This reading indicates there is some oil in the motor and that it is being pumped under some pressure. A shortage of oil should be indicated by the oil pressure gage reading rising and falling spasmodically. When this condition occurs the motor should be stopped as soon as possible and the oil condition investigated. Every pump operator should be thoroughly familiar with the normal oil pressure gage reading for his particular pumper. Any variation from normal should be investigated and reported to the proper officer immediately.

Every time the motor is started the pump operator should be alert for any unusual noise. The cause should be determined immediately. Any unusual road behavior while the vehicle is in motion should be reported to the proper officer at the first opportunity.

In general, the same inspections are made after runs as are made periodically, such as after coming on duty. Brake drums that are too hot indicate need of attention. This is particularly important after a truck has had the brakes serviced in the shop. Tires should receive more careful examination for nails or glass that may have been picked up in travel. Gasoline, oil and water levels are checked and brought up to a full condition if necessary. This **must** be done on every occasion.

If the pump has been operated from draft, it should be connected to a hydrant or other source of clean water and thoroughly flushed. This is especially important if salt water

or dirty water was pumped. With a centrifugal pump that has pumped water containing considerable debris it may be "back flushed" by connecting the hydrant to the pump discharge and letting water emerge through the suction. This often will release foreign matter that has become imbedded in the pump impeller.

Valves should be given attention to clear them of sand or grit that may have been picked up. All gaskets in caps and connections should be examined and replaced as needed.

The priming device should be examined to assure that it will function the next time it may be needed. If oil is used in the priming pump the oil reservoir should be checked and filled as necessary. Suction strainers should be checked to assure that they are not clogged.

All equipment located on the truck should be checked to assure it is in place and in good condition for next usage. Any deficiencies should be corrected by replacement, sharpening, oiling, cleaning or recharging as the case may be. Nozzles and hose appliances should be examined for damage that could affect their operation.

If the pump is normally carried dry, drains should be opened to drain pump and piping, especially during cold weather. Any wet hose should be replaced immediately.

Routine Every Week

ONCE a week the fire apparatus should receive a more complete and comprehensive check-up. Attention should be given to items that may offer reduced efficiency through formation of corrosion, accumulations of sediment, or abrasive action.

The battery case and cable terminals should be kept clean. A weak solution of bicarbonate of soda can be used to wash corroded terminals. A good grade lubricant can then be used to inhibit corrosion. Check the battery clamps to see the battery is held securely.

If plain water is used in the booster tank it can be drained and replaced with fresh water. Draining and flushing at periodic intervals will keep the accumulation of loose scale and rust to a minimum. If a wetting agent is used, or if a rust in-

(*Please turn to page 30*)

The best fire-fighting foam is Air Foam!

FREE AIR FOAM REFERENCE CATALOG

Air Foam is more effective, less expensive than chemical foam

Pyrene* Air Foam is the finest fire protection yet devised for oil fire hazards. It extinguishes fast, prevents flash-backs and re-ignition, is *compact* and extremely flexible. Pyrene* Air Foam is available in America's most complete line of portable, fixed, and mobile units, for any size hazard. In most instances, they can be operated by one man! Installation and upkeep costs are almost always lower than those for chemical foam. And foam compound costs less.

If your firm must cope with the danger of oil fire hazards, you owe it to yourself to study the Pyrene reference catalog, and have the information in it available at your fingertips. Send for your copy today—without any obligation, of course.

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MAIL COUPON TODAY! It will bring a valuable FREE reference booklet illustrating and describing air foam equipment for every type of oil fire hazard.

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(affiliated with C-O-Two Fire Equipment Co.)
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Send me the new, free Pyrene Air Foam reference catalog.

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FOLDING CHAIRS
IN STEEL OR WOOD

Folding Banquet Tables
SHIPPED DIRECT FROM THE FACTORY
Write for complete catalog
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FIRE and POLICE UNIFORMS

SHIRTS
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All Union Made

Read what this pleased customer says:

"We have received all our uniforms and badges and believe me we are all pleased — fine fit and fine uniforms." (John A. Johnson, Treas., Golden Valley Fire Dept., Minneapolis, Minn.)

WRITE FOR
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or
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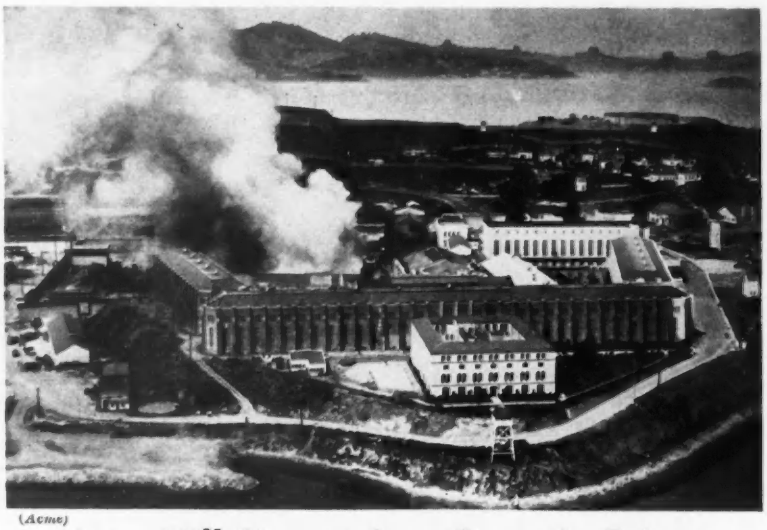
RUSSELL UNIFORM CO.
192 Lexington, New York 16, N. Y.
Corner 32nd Street: Phone MU 6-0828



(*Acme*)

Jute Mill Fire at San Quentin Prison

From a report submitted to the NFPA Fire Record Department by Joe R. Yockers, California State Fire Marshal

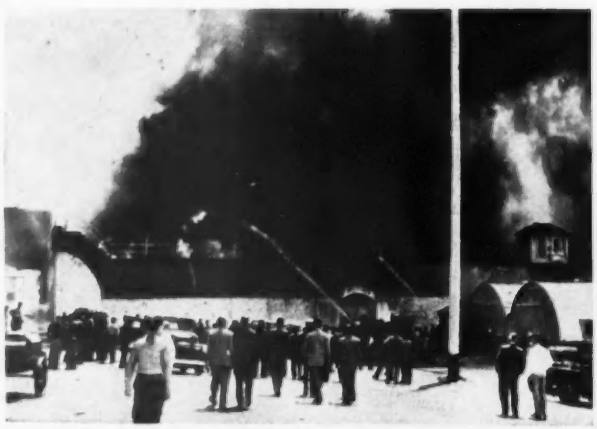
AT 1:01 P.M. on April 19, 1951, a fire started near the sack inspection racks inside the jute mill of the San Quentin Prison in California. Prisoners and guards attempted to extinguish it by smothering with burlap sacks, but a large pile of sacks nearby burst into flame which spread to adjacent bags and involved the roof of the building.

Because of the large open wood-frame roof structure and the presence of lint, the fire spread rapidly throughout the underside of the roof structure forcing all persons immediately to leave the building. Tremendous heat made the structure untenable for fire fighting purposes, so efforts were made to protect exposed buildings.

The institution fire department consisting of 13 inmates assisted the Marin County and San Rafael Fire Departments during the fire fighting, and several other municipal fire departments in the immediate area responded under the Mutual Aid Plan.

Heat of the fire melted the wire-glass window in the skylight, 2½-in. steel line-shafts sagged over the machinery like spaghetti, and in some places cast iron showed evidence of reaching the fusing point.

The building was not protected by automatic sprinklers, although such recommendation had been made by the Office of the State Fire Marshal. The Department of Adult Correction, in 1944, had determined that the jute mill should be moved to a new location and housed in a modern structure. It was decided that expenditure of funds for sprinkler protection for the old building was not justified since it was to be demolished when the new one was completed.



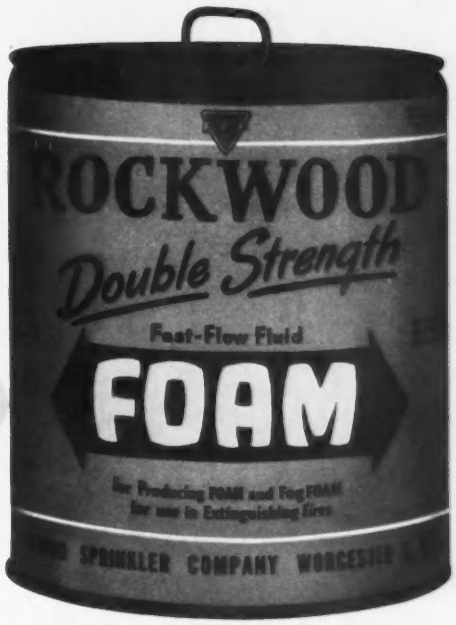
Looped 6 in. and 8 in. water mains and well-placed hydrants in the prison area provided an ample water supply for the 21 engine companies that responded to the alarm for the San Quentin fire. Eleven companies remained outside to protect exposures while the others went inside the prison walls. (*International News Soundphoto*)

A New Double Strength Fast-Flow Fluid FOAM

For Fighting Flammable Liquid Fires

Here is an outstanding new FOAM Liquid to go with Rockwood's advanced type of FogFOAM and FOAM Nozzles for fighting fires in gasoline and other similar flammable liquids.

This new FOAM is now freely available for use with hose line nozzles and permanently piped FogFOAM and FOAM installations. It will give you many advantages over ordinary FOAM Liquid or powder foams.



Rockwood Regular FOAM — the type previously supplied — is still available for use with Rockwood devices.

- MORE FLUID
- FASTER SPREADING
- FLOWS FREELY AT SUBZERO TEMPERATURES

22 ADVANTAGES PROVIDED BY ROCKWOOD NEW FAST-FLOW FOAM

- Faster Extinguishment of Gasoline Fires.
- Greater Resistance to Heat.
- Flows Freely at Subzero Temperatures. (-20°F)
- Stands up under Tropical Climates.
- Double Strength — a Gallon Goes Twice as Far.
- Easier for Firemen and Shippers to Handle.
- Half the Weight for comparable results.
- Cuts Shipping Costs in half.
- Requires only half the space for storage and shipping.
- Covers Burning Surfaces Faster.
- Seals Off Combustible Vapors Completely.
- Foam Blanket Reseals if Broken by Trucks, Hose, Foot Tracks, etc.
- Flows Freely Around Obstructions.
- Clings to smooth vertical or curved surfaces.
- Quicker to Put into Action.
- Easier to Mix with Water.
- More Efficient on Fire Trucks.
- Easily Cleaned Up After Fires.
- Can be Used with Latest Types of FogFOAM and FOAM Nozzles in Hose Lines or Fixed Piping Systems where proper Proportioning is provided.
- Can be used with Standard Liquid Foam Systems for Storage Tanks.
- Costs Less than Old Type Liquid or Chemical Powder Foam.
- Maintenance Costs are Lower than old style Chemical Powder Foam.

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Portable Fire Protection Division

ROCKWOOD SPRINKLER COMPANY

88 HARLOW STREET WORCESTER 5, MASSACHUSETTS

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FIREWATER

the "Wet Water" that's

- ✓ unconditionally guaranteed
- ✓ lowest in price
- ✓ absolutely non-corrosive

FIREWATER* is the tested and proved chemical penetrant that actual laboratory tests have proved to be no more corrosive than distilled water . . . that is used at a dilution rate of 1:600 for maximum effectiveness . . . that is unconditionally guaranteed!

That's the story that is putting **FIREWATER** in a class by itself among "wet-water" compounds. **FIREWATER** will do the job — safely, efficiently, *and* economically.

Write *today* for more details — and for *free* diagram of simply made, low-cost proportioner you can make yourself.

FIREWATER COMPANY
Number 1 First St.
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Please send me full information on **FIREWATER** and **FREE** proportioner diagram.

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CITY and STATE.....

The FIREWATER Co.

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Membership Report

NFPA Welcomes:

The following fire departments who have joined the Association. Total Fire Department Membership is now 1,489 fire departments and 20,711 men.

Arizona: Chandler Fire Department, Chandler; Mesa Fire Department, Mesa.
California: Mindota Fire Department, Mindota.
Colorado: Lakewood Montair Fire Department, Lakewood.
Idaho: Shoshone Volunteer Fire Department, Shoshone.
Illinois: Caterpillar Tractor Company, Joliet; Pecatonica Fire Protection District, Pecatonica; Steger Fire Department, Steger.
Iowa: Camanche Volunteer Fire Department, Camanche; Chief H. F. Stettler, College Spring; St. Ansgar Volunteer Fire Department, St. Ansgar.
Maine: Lincoln Fire Department, Lincoln.
Maryland: Greenbelt Fire Department, Greenbelt.
Massachusetts: Great Barrington Fire Department, Great Barrington.
Michigan: Bangor Fire Department, Bangor.
Minnesota: Stillwater Fire Department, Stillwater.
Nebraska: Neligh Volunteer Fire Department, Neligh.
New Hampshire: Sunapee Fire Department, Sunapee.
New Jersey: Allenhurst Fire Company No. 1, Allenhurst; Beverly Road Fire Company No. 2, Burlington, E. H. Stokes Fire Company No. 3, Ocean Grove.
New York: West Seneca Fire District No. 4, Buffalo.
Oregon: Multnomah County Rural Fire Protection District No. as, Portland.
South Carolina: Beaufort Fire Department, Beaufort.
Texas: Weslaco Fire Department, Weslaco.
Vermont: Swanton Village Fire Department, Swanton.
West Virginia: Williamstown Volunteer Fire Company, Incorporated, Williamstown.
Wisconsin: Sparta Fire Department, Sparta.

Every member receives a handsome membership certificate illustrating the history of fire protection.

Canada

Ontario: Chapleau Volunteer Fire Department, Chapleau; Port Colborne Volunteer Fire Company, Port Colborne; Bertie Township Fire Department, Ridgeway

NATIONAL FIRE PROTECTION ASSOCIATION
60 Batterymarch Street, Boston 10, Mass., U.S.A.

Application for Fire Department Membership in NFPA

Please enroll.....
(Name of individual or organization, rank, title, or business connection)
Individual ☐
Paid Fire Department ☐
Call or Volunteer Department or Company ☐
Industrial Fire Brigade ☐

City or Town.....**County**.....

Mailing Address.....

.....**State or Province**.....

Fire departments and Fire Chiefs joining NFPA should send mailing list for 6 subscriptions to NFPA FIREMEN magazine.

Enclosed $12.50 (Check or money order) ☐

Please send bill ☐

DURING the first half of the twentieth century 133 conflagrations in the United States and Canada took the lives of 1,274 people and destroyed 40,000 buildings and other property valued at $785,000,000. These statistics were extracted from a detailed report on conflagrations published by the National Fire Protection Association in the pamphlet *Conflagrations in America Since 1900.*

This well illustrated pamphlet discusses the characteristics of conflagrations, describes the conditions that breed them, and devotes sections to forecasting, fighting and preventing conflagrations. Several tables are included, among them a list of all conflagrations in North America since 1900, with factors responsible indicated in each case.

Pointing out that exhaustive studies of the factors responsible for the devastating World War II fires in England, Germany and Japan showed that the best defense against conflagrations is the best defense against wartime fires, the pamphlet urges that American communities avail themselves of the lessons of past conflagrations and act now to protect themselves against destructive fires in peace or war.

Copies of this 64-page pamphlet illustrated with more than 50 pictures of conflagrations may be obtained from the National Fire Protection Association, 60 Batterymarch St., Boston 10, Mass. Single copies $1.00. Discount for quantities.

Two Pocket-Size Publications!
NFPA Inspection Manual
366 pages, $3.00 per copy
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412 pages, $1.00 per copy
Write to
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OIL BLAZE
HOW SCOTT AIR-PAK SAVED THE DAY!
DREAD OF ALL FIREMEN IS FIRE AT AN OIL REFINERY, OR CHEMICAL PLANT.
LOOKS TOUGH JIM. WE'VE GOT TO GET IN THERE... AND FAST!
SCOTT AIR-PAKS ENABLE WET WATER FOG TO BE "DELIVERED" RIGHT ON THE BLAZE.
THOSE MEN ARE REALLY GETTING IN. THEY'RE KNOCKING IT DOWN ALREADY.
PROTECTED BY SCOTT AIR-PAKS, WORKING IN COMPARATIVE SAFETY, FIREMEN QUICKLY CONTROL AND EXTINGUISH WITH A MINIMUM LOSS.
BY GOLLY, THE COMBINATION OF WET WATER FOG AND AIR-PAKS SURE GOT RID OF THAT ONE IN A HURRY!

Supplying fresh, cool air — not oxygen, Scott *Air-Pak* provides complete breathing protection, even in petroleum atmospheres where the use of oxygen is an added hazard. Scott *Air-Pak*, made in several sizes and types, enables industrial and municipal firemen to fight fires quickly and safely *at the source*, minimizing fire damage. Thousands of Departments are setting enviable records for life and property conservation — with Scott *Air-Pak*.

Scott Senior Sling Pak (above) — extra light and small, for short duration uses.

Write today **for full details on the Scott Air-Pak in Bulletin No. 510.**

ESTABLISHED IN 1932 — Scott — FOR SAFETY - FOR SERVICE

Have you seen the new Scott DEMAND Inhalator?

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CANADA: SAFETY SUPPLYCO. BRANCHES IN ALL PRINCIPAL CITIES
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Instantly Ready

SEARCHMASTER

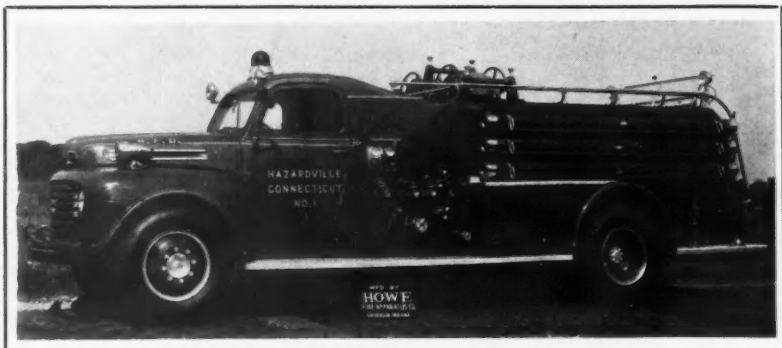
The Chief picks up his Portable SEARCHMASTER. He's inside the building in time to handle most fires before they get to the dangerous stage, and before floodlights can be set up. All the light you want at the snap of your thumb. Patented handle points anywhere *without cocking arm.* Rechargeable.

WRITE FOR FOLDER

"Master-Light-Makers for 35 Years"

CARPENTER MFG. CO.

168 Master-Light Bldg.
BOSTON—45—SOMERVILLE
MASSACHUSETTS



HOWE Fire Truck Equipment Meeting Every Service Since 1872
Centrifugal, Rotary, and Piston Pumps supplied
HOWE FIRE APPARATUS COMPANY, 1406 West 22nd Street, Anderson, Indiana

Maintaining Pumpers

(*Continued from page 25*)

hibitor is added to the booster tank, the weekly inspection may consist merely of a visual examination of the liquid in the tank but tank strainers should be checked.

The "change-over valve" on multi-stage centrifugal pumps should be moved back and forth to the full extent of its travel and then left in the desired position. Discharge gates should be opened and closed.

A careful visual examination should be made of the entire piece of fire fighting equipment including a close inspection of the underside of the chassis. Any suspicious condition should be a subject for further examination and immediate correction.

Seek to avoid practices that are harmful to the motor and pump during every period of operation to assure that fire apparatus will function in an efficient manner when needed.

●

"The Fire Pumper is Our Artillery in Civil Defense"– General Lester J. Maitland, Director of Civil Defense State of Michigan.

Fire Schools in 1951

Illinois: The Illinois Fire School will be at Champaign June 19–21.

Kansas: The Kansas Fire School will be at Hutchinson October 22–25.

Michigan: The Michigan Fire School will be at Ann Arbor June 19–22.

Montana: The Twelfth Annual Montana State Fire School will be at Polson, September 5–8.

Ohio: Sixth Annual Short Course in Fire Administration at Ohio State University June 12–15.

Pennsylvania: The Thirteenth Annual Pennsylvania Fire School will be at Lewiston August 6–10.

South Dakota: The South Dakota Fire School will be at Pierre June 18–22.

Virginia: The Virginia State Fire School will be conducted at No. 9 Station, 115 Thole Street, Norfolk, September 10–14. For details write to Fire Marshal Clay Easterly, Director, Box 112, Martinsville, Va.

●

A Change for Wet Hose

CHIEF W. Lewis "Army" Armstrong of Old Forge, N. Y., father of the "Blitz Buggy" high pressure fog fire fighter, gives the following parental advice in the *Fire Chief's Quarterly Service Bulletin* for April 1951, regarding treatment of fire hose:

"Right now is a time when every fire chief should be careful of his fire hose. In fact we should care for it like we would a BABY. Wash it. Dry it, and change it often."

We were told years ago that fire hose had "male" and "female" couplings. Now we are informed that there is a baby between.

NOTICE

The Farm Fire Department Contest of the National Fire Waste Council which began July, 1950, and was to have run through June 30, 1951, has been cancelled due to lack of participation by fire departments.

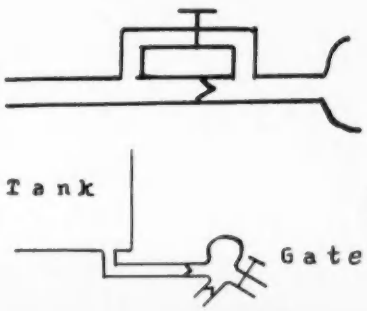
Reader's Comment

To the Editor:

I just completed reading your article, "Making a Good Job of It" in the April issue of FIREMEN. It is well written and should be understood very easily.

When you speak of pressure on the suction gage you mention that the hydrant must be fully opened. It is also possible that the suction gate might not be fully opened (I wonder where I found that out?). To save a couple of operations when water arrives in the supply line at the pumper, a check valve in pipe going into suction and a check valve in pipe from booster to pump comes in very handy. The following sketch will try to clarify the previous sentence.

Yours truly,
JAMES V. WESTLING, *Captain*,
Assistant Superintendent of Training,
Minneapolis Fire Department.



A Fire Need Not Be a Tragedy

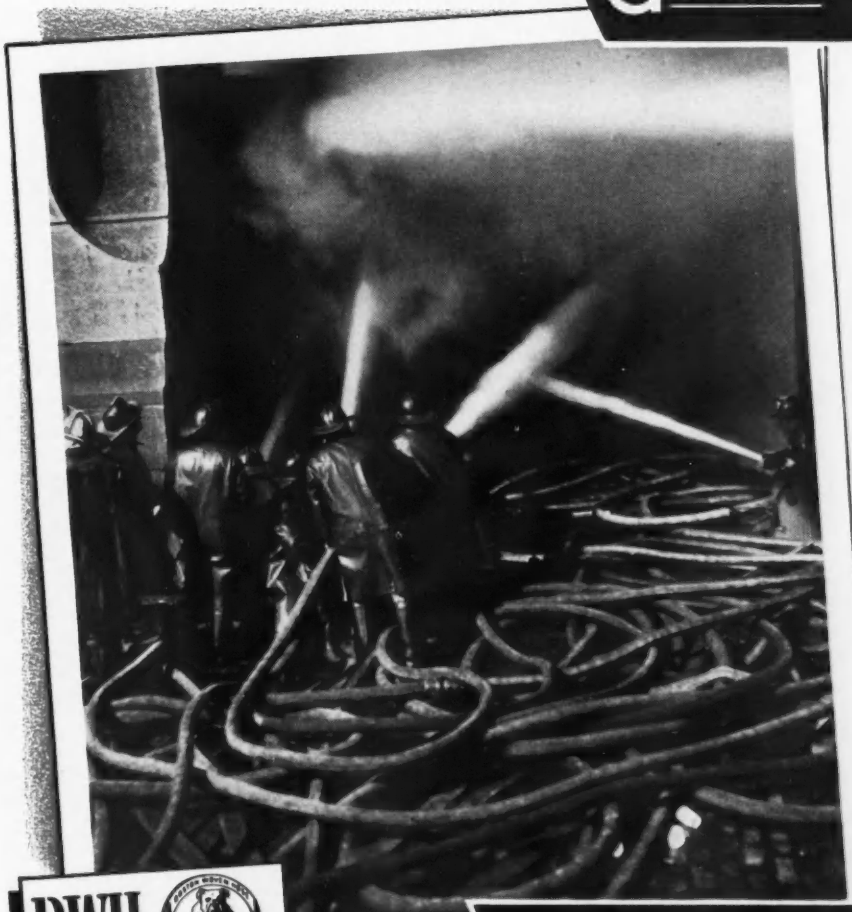
Any fire is bad medicine. But losses can be minimized . . . *and lives saved* . . . with ample planning, able execution and good equipment.

Of prime importance when it comes to equipment is fire hose. And it is here that we recommend BWH 73-Year-Proven Fire Hose as your soundest, safest investment.

Tough, light in weight . . . BWH Fire Hose is easy to handle on ladder or ground. And it's flat-cured to fold fast and rise snug in the truck bed. As to general, all-round toughness and pressure resistance, BWH Fire Hose has long since established a record which speaks for itself!

See the "General" trademark in your classified phone book. Let our organization's Fire Equipment Experts help you choose the best BWH Fire Hose for your own specific requirements.

GENERAL



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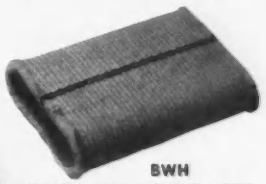
Double Jacket Construction

General INNER FLEX is the only fire hose with the genuine, smooth-folding inner jacket, especially designed to provide complete pliability. The specially woven folded edges prevent squeezing and pinching and its smooth rubber lining affords longer lasting life. INNER FLEX — the PATENTED fire hose.



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Heavier, stronger fibers, perfect adhesion, smooth, friction-resistant water-way. Rates tops in every test!

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Designed for easy handling and long service on tough jobs. Ages well, withstands high pressures.

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For long, trouble-free performance in communities where a light service hose is adequate.

BWH
"UNDERWRITERS" HOSE
Single or Double Jacket

Made in strict accordance with the National Board of Fire Underwriters' specifications. Labeled or unlabeled.

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What's New in Fire Equipment?

New Adhesive Safety Signs

ADHESIVE safety signs have been developed for use on fire extinguishers and elsewhere in buildings and industrial plants. These signs are printed on cotton cloth and are treated to resist dirt, grease, and moisture, and, according to the manufacturer, meet the requirements of the American Standards Association for industrial accident prevention signs. "Scotchlite" signs are also available for use where visibility from reflected light is required. For catalogue and name of local dealer, write to W. H. Brady Company, 16 E. Spring Street, Chippewa Falls, Wisconsin.

●

First Aid Fire Fighter for Homes

SIPH-O Products Company is now marketing a fire hose unit complete with faucet adaptor, 35 feet of plastic ½-in. hose, and a spray nozzle to help make homes ready for fire fighting. The special adaptor attaches with "hydrant grip" to smooth or odd-shaped faucets in the home. This unit has been demonstrated by the manufacturer as a first aid fire fighting device before fire departments and civil defense authorities. For information and literature write to Siph-O Products Company, 60 India Street, Boston, Massachusetts.

New Blitz-Buggy Fire Fighter

HI-PRESSURE Fog Equipment Company announces a new Willys model Blitz-Buggy Fire Fighter that disperses fog or solid stream while moving at 5 to 20 miles per hour, or while pumping from draft or hydrant at 150 gallons per minute at low pressure through its 1½-in. lines. In addition to a high pressure pump mounted at midship, this four-wheel drive model is equipped with 20 ft. extension and 14-ft. roof ladders, axe, crow bar, a 200-gallon water tank, 200 feet of high pressure hose, a fog gun, a 15-pound CO2 extinguisher, a hand foam extinguisher, and a 1½-in. outlet for a solid stream. For further information write to Hi-Pressure Fog Equipment Company, Old Forge, New York.

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Portable Two-Way Radio-Telephone Unit

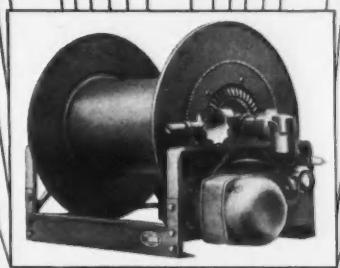
AN improved portable FM two-way radio-telephone unit, to be hand-carried or back-packed, has been developed by the Link Radio Corporation. Pack Set Type 3035 is a portable assembly in the 25-50 Mc very-high frequency band and Type 3036 operates in the 152-174 Mc very-high frequency band. Weighing but 19 pounds, these sets feature a self-contained dry battery power supply that can provide as much as 50-100 hours of intermittent transmitting and receiving service. The manufacturer recommends these new pack sets for fire, police, civil defense, forestry, and conservation work. Write to Dept. A.M., Link Radio Corporation, 125 West 17th Street, New York 11, New York.

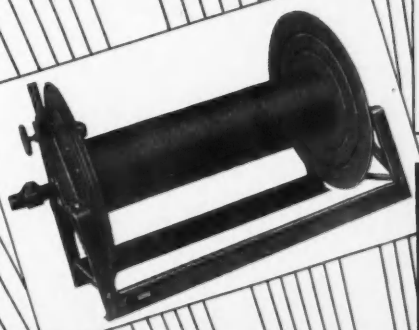
●

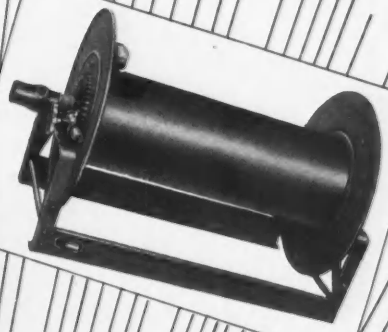
Booklet for Fire Departments

HOW vital two-way radio can be to fire departments and other civil defense operations is described in the 16-page, two-color booklet, "A Guide to Mobile Communications for Civil Defense." The need for dependable electrical supply in each vehicle for operation of mobile radios, battery charging, lights, sirens, and other accessories is carefully presented. For your copy of this informative booklet, write to Leece-Neville Company, Cleveland 14, Ohio.

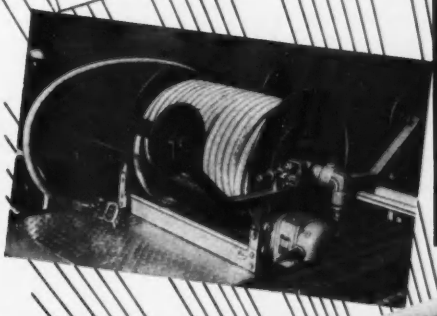
No Finer Hose Reels Made!

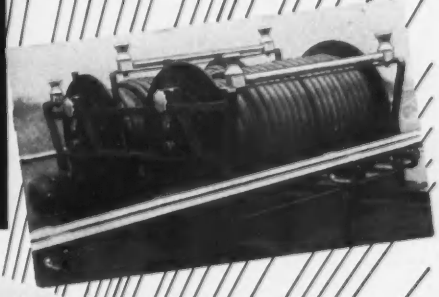


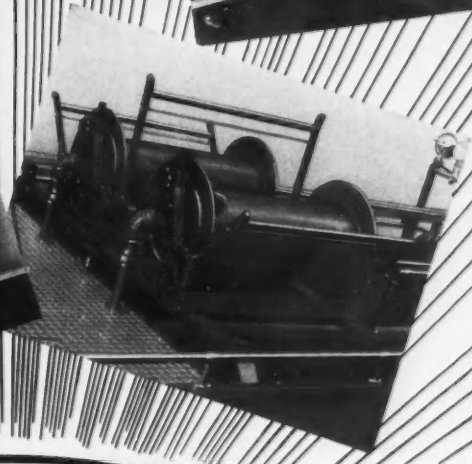




Acceptance of Hannay Hose Reels by the nation's foremost fire fighting equipment manufacturers is the best endorsement of this superior equipment







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NOW! a two-in-one fire fighter

Versatile John Bean H. P. V. gives High Pressure Fog and Volume at the same time!

500-, 600-, and 750-G.P.M. capacities. Complies with Fire Underwriters' requirements for capacities claimed.

The new H.P.V. Fire Fighter is the complete answer for protection against all types of fires. Bean High Pressure Fog unit gives you five important fire-fighting exclusives: (1) Carries own High Pressure water supply; (2) puts out fires faster; (3) clears the way for close-in work; (4) minimizes water damage; and (5) requires fewer men to operate. Write today for all the facts about the John Bean H.P.V. Fire Fighter.

Another innovation by the manufacturers of

Get all the benefits of High Pressure Fog plus these new volume pump advantages:

TROUBLE-FREE PUMP OPERATION—Rugged, solid case multiple-stage pump eliminates out-of-alignment bearings, reduces chances of pump failure. Operates simultaneously with High Pressure or alone.

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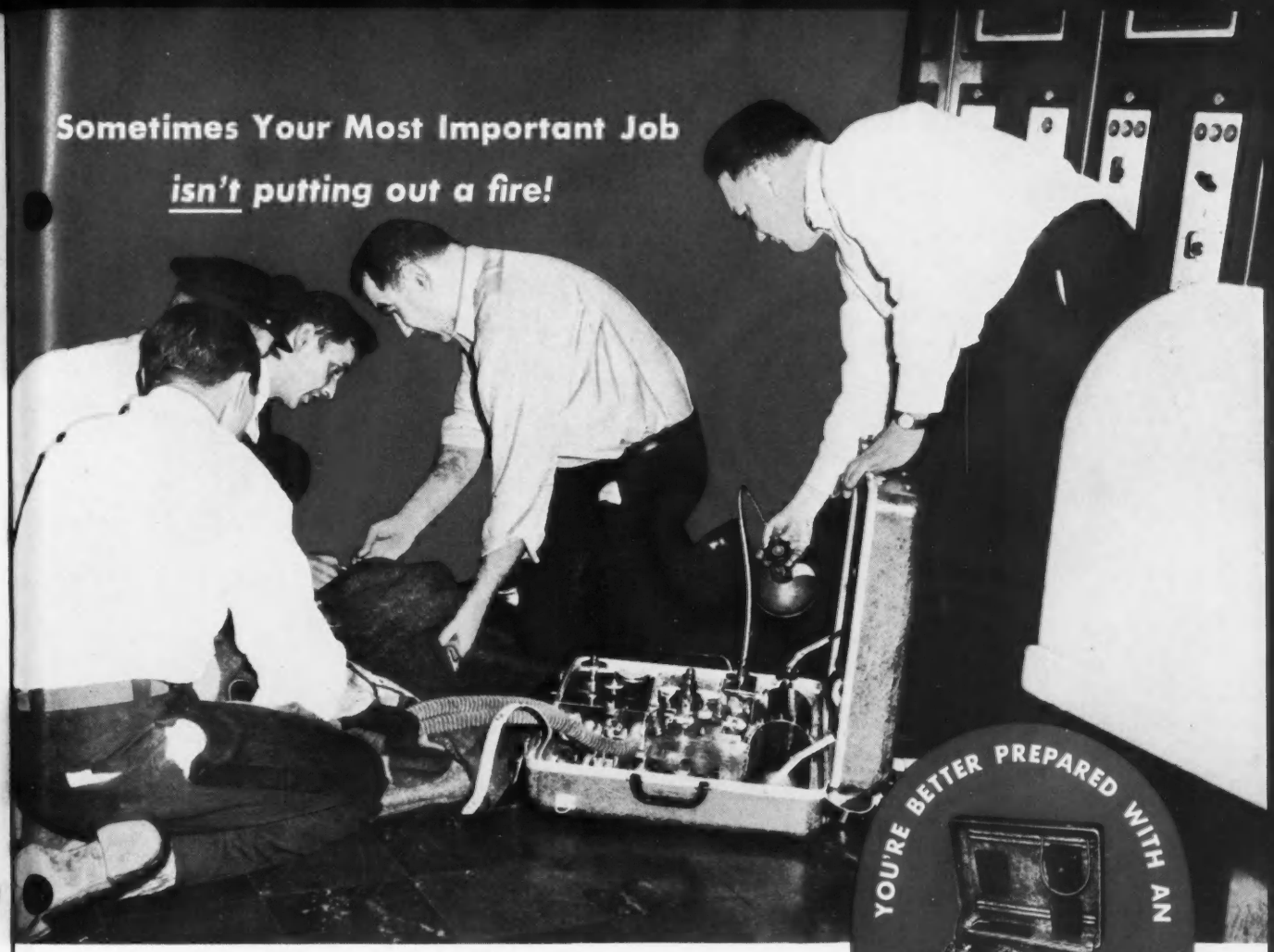
BUILDERS OF BEAN HIGH-PRESSURE PUMPS FOR OVER 60 YEARS



There's a little boy laughing and playing around his Cleveland home today because of an unusual life-saving team of a truck driver—two quick-thinking patrolmen—the Shaker Heights fire department rescue squad—and an M.S.A. Pneolator.

This three-year-old, playing on the bank of a creek, slipped and fell in, striking his head on a rock. Unable to get up, he lay submerged while the icy water drained away his life and strength. A truck driver pulled him out, and called a radio patrol car. During the rush to the hospital, the boy lost consciousness, and his body stiffened. It seemed that the end of the story would be written by "D.O.A."

Then the two patrolmen made a decision that was credited with saving the boy's life. They knew of a new piece of life-saving equipment at the fire station, and speeded there. Captain Stanley Nethery, Lieutenant Ronald Kral and the members of the trained rescue squad manned the M.S.A. Pneolator, that administered automatic artificial respiration, and fed life-giving oxygen into the youngster's lungs. After 34 tense, anxious minutes the boy stirred and sobbed. Twenty-four hours in the hospital completed the cure. The lad went home. And another glowing entry was written into the day book of history that records the heroism, the resourcefulness, and the countless deeds of unselfish public service of American firemen.

The M.S.A. Pneolator is the newest development in mechanical artificial respiration equipment, and assures maximum chance for survival in every case of arrested breathing. Oxygen supply is immediately adaptable to the age and physical condition of the patient. Elimination of the "suction" phase of the breathing cycle minimizes danger of aggravating lung tissue injury. Inhalator action for smoke treatment. Ask for Bulletin No. CH-2.

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PLUS HIGH PRESSURE FOG

A highly efficient pumper apparatus with the Champion Three Stage Centrifugal Pump powered by the 145 Horsepower F-7 Ford.

The Pump is the Type SH500 which delivers 500 gallon Underwriter performance plus 60 gallons per minute at 850 lbs. for high pressure fog.

Or this Darley Apparatus is also available in Underwriter capacities of 600 GPM and 750 GPM — the F-7 Ford engine having adequate power for the larger capacity pumps.

Booster Tank: 300 gallon flat type with quick action rear fill and special line piped from pump to tank for refilling tank by pumping at draft.

Booster Hose Reels: Two with horizontal and vertical guide rollers so that hose can be pulled off quickly and easily in any direction without rubbing or binding anywhere.

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